WINTER ,
RECREATION AND INTERPRETATION

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Edited by

John S. Marsh

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Dr. John S. Marsh
Environmental and Resource Studies
Trent University, Peterborough, Ontario
K9J 7B8

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WINTER INTERPRETATION: AN INTRODUCTION

John Marsh
Trent University

In 1974 Kurt Seel of Parks Canada prepared a report entitled "Winter Interpretation - An Opportunity for the Taking".[1] In circulating the report, L.H. Robinson, Director, Western Region, noted:

> Traditionally, park interpretation has been seen as a summer function only, with the result that for years now the period from October to March has been identified by and large as a period of interpretive inactivity. Our entire thinking, planning, budgeting and staffing procedures have been and are based on this pattern.
>
> In a country like ours, with summer periods as short as they are, interpretation would be failing its mandate if it were not to develop meaningful programs for the other seasons, especially the winter, so as to eventually provide a year-round service.

Since that time some park, historic site and outdoor education agencies have seized the opportunity to improve the public's understanding and enjoyment of winter. However, the recent rapid growth of winter outdoor recreation and interest in outdoor education together with management problems concerning safety, information, facilities, budgets and manpower make further examination of the scope and practice of winter interpretation desirable.

As in the case of summer interpretation, winter interpretation can be examined with reference to the Sender-Message-Receiver communications model[2]. Thinking of the public first we should initially ask, who are the receivers of winter interpretation messages? They could be classified according to activity, location and age. For example, we find a wide range of contrasting winter activities today including: snowmobiling, downhill and cross-country skiing, ice-fishing, skating, school field trips, and museum visiting. The location of winter activites

varies from public institutions in the city, to city parks, conservation areas, national and provincial parks, Crown and private land. Persons from school age to retirement age can be found in such activities and areas. The clientele is thus diverse in character, ability and expectation. Winter interpretation will only be effective if there is a more complete understanding of this apparently growing clientele. Yet studies of winter recreationists, their attitudes and behavioral patterns have been few and far between.[3]

Second, we should ask what messages should make up winter interpretation? Messages might concern the character of winter, man's relationship with winter, skills for enjoying winter, and agency objectives. Canadians seem amazingly ignorant about the climatic characteristics of winter, the attributes of snow and ice, and the story of plants and animals in winter. Knowledge of such things would enhance appreciation of the season and contribute to safety. As the public has difficulty in dealing with winter today it will likely be interested in how people in the past - Indians, explorers, settlers - coped with winter. The safe enjoyment of the snowy outdoors also depends on the acquistion of certain activity and survival skills. These may relate to activities such as skiing, snowshoeing and winter camping or hazards like hypothermia and avalanches. There is also, presumably, the need, as in summer, for interpretive messages regarding agency and management objectives, such as protecting the environment and reducing garbage. To provide good interpretation it will be necessary to assemble a suitable package of messages for each area and client group.

Third, we have to ask which agencies should communicate which messages, in which places, to which client groups? As in the case of summer interpretation there is a wide range of agencies potentially or actually involved in winter interpretation. These include: Parks Canada, Provincial Park branches, Conservation Authorities, educational authorities, municipal agencies, public interest groups, and commercial recreation businesses. All probably have a role to play in winter interpretation. However, within agencies, and probably between agencies, some coordination of winter interpretation activities is called for.

After identifying the public to be served, the messages to be communicated, and the agencies to be involved, it remains to determine the methods of interpretation to be adopted. This requires us to ask one

basic question: Are the methods used in summer interpretation applicable in winter? This leads ot numerous other questions: do people want guided trips in winter; when it's cold will people use an interpretive guidebook or stop to look at signs; is it worth offering audio-visual shows to small audiences; how should winter events be advertised? If the methods and skills required for winter interpretation differ from those applicable in summer, and I am sure they do, then there are implications for budgets, manpower and training.

Being confronted by a belief that Canadians could get more out of winter, Kurt Seel's appeal for winter interpretation, the challenging questions detailed above, and some disturbing observations of outdoor recreationists in winter led me to organize a workshop on the subject of winter interpretation. The workshop, sponsored by the Ontario Section of Interpretation Canada, took place at the Irwin Inn, Stony Lake near Peterborough, on the weekend of January 30 - February 1, 1981. Interest in the topic was reflected in the attendance of 120 and the enthusiasm manifested by the wide range of speakers and participants present.

Hopefully, the benefits of the workshop will be extended by this publication which includes the proceedings of the workshop as well as other relevant materials

In introducing the workshop I presented some views of winter evident in the writings of two early Peterborough area settlers, Catharine Parr Traill and Susanna Moodie. Generally discontent with her life in the bush Susanna wrote of winter:

> Oh, the cold of Canada nobody knows,
> The fire burns our shoes without warming our toes;
> Oh, dear, what shall we do?
> Our blankets are thin, and our noses are blue.
> Our noses are blue, and our blankets are thin
> It's a zero without, and we're freezing within.[4]

Catharine also found winter a challenge but was more positive, seeing its benefit and beauty. Thus, in a letter back to England, she writes:

> You say you fear the rigours of the Canadian winter will kill me. I never enjoyed better health, nor so good, as since it commenced. There is a degree of spirit and vigour infused into one's blood by the purity of the air that is quite exhilarating. The very snow seems whiter and more beautiful than it does in your damp[5] vapoury climate.

The Canadian winter is indeed a challenge to mind and body but hopefully, like Catharine Parr Traill, more Canadians each year will rise to this challenge, and with the help of interpreters, learn more about

this country's dominant season and how to enjoy it.

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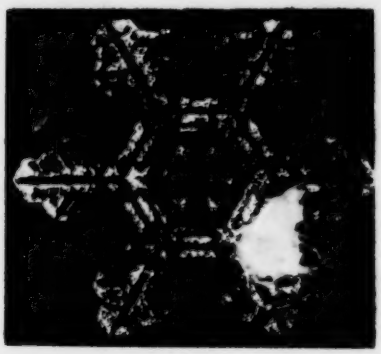


A SUMMARY OF WINTER INTERPRETATION PROGRAMMES IN CANADIAN NATIONAL PARKS

Mary-Louise Adams
Environmental & Resource Studies
Trent University

There are currently 28 national parks throughout the country. Parks Canada, the responsible government agency, endeavours to protect them as representative samples of our natural heritage. However this has not always been the express purpose of the parks. In the not too distant past they were viewed primarily as national playgrounds. In many instances it has been the nature of their interpretive programmes which has shed this image.

In order to shed some light on the state of winter interpretation across Canada, we sent a questionnaire to all of our national parks inquiring about the programmes and facilities they offer to winter visitors. The following is a summary of their responses.

We received completed questionnaires from 23 of the 28 parks. Kejimkujik, Kouchibouguac, Forillon and Elk Island failed to respond, while Mount Revelstoke and Glacier submitted a single form which I chose to tabulate as Glacier's. Of these 23, 20 indicated that they have some sort of winter interpretation programme. The remaining 3 included Auyuittuq on Baffin Island, Kluane in the Yukon and Waterton Lakes in Alberta.

The operating programmes tend to revolve around local schools and communities, in fact on site activities are not offered at all parks. Where they do exist, they consist most frequently of guided ski tours and snowshoe hikes. Some of the more unique events - canyon crawling and wolf howls - are offered at Jasper, Pukaskwa has the most developed programme including: ski tours, snowshoe hikes, campouts, a school programme, children's film nights, presentations to community groups and a

PROGRAM

PARK	Winter Programme	By Request Only	Community Program	School Program	Edu-Kits	Newsletter	Exhibits	X-Country Ski Tours	Downhill Events	Snowshoe Hikes	Roving	Campouts	Skill Development	Hotel Program	Slide Shows/Talks	Skating	Storm Watches	Increasing Use
Terra Nova	x	x		x														x
Gros Morne	x		x	x				x							x			
Prince Edward Island	x			x	x											x		x
Cape Breton	x			x		x	x								x			x
Kejimkujik																		
Fundy	x	x					x	x		x								x
Kouchibouguac																		
Forillon																		
La Mauricie	x				x	x	x								x			x
Auyuittuq																		
St. Lawrence Islands	x		x	x											x			x
Georgian Bay Islands	x					x	x											x
Pukaskwa	x		x	x		x		x		x		x			x			x
Point Pelee	x						x	x							x	x		x
Riding Mountain	x		x	x									x		x			x
Prince Albert	x							x						x	x			x
Wood Buffalo	x		x	x				x										x
Nahanni	x		x												x			
Kluane																		
Elk Island																		
Jasper	x							x		x	x				x			x
Banff	x						x	x	x		x			x	x			x
Waterton Lakes		x		x														x
Kootenay	x	x		x	x													
Yoho	x		x					x			x			x				x
Glacier		x								x								
Mount Revelstoke		x								x								
Pacific Rim	x	x													x		x	x

winter newsletter. The accompanying chart shows the activities offered at each park.

With current budget cuts a successful interpretive programme must be one that can reach large numbers of people. Attempting to do this, the Western parks often hold their evening activities (films, slide shows, etc.) in their large hotels. In Banff they are trying to increase their audience with a concessionnaire programme. Staff interpreters inform waitresses, bar tenders, rental agents and other hotel personnel about up-coming events in the hopes that this information will be passed on to the guests. Another method of reaching large numbers of people, mentioned by several parks, is roving. An interpreter strategically placed on a cross-country ski trail meets more people on a sunny afternoon than one in the interpretive centre. It's an effective way to make the most of a limited staff.

School extension programmes operate regularly in 14 of the parks, while 5 others hold school-oriented activities upon request. Most parks send the interpreter to the schools, but there are some which do offer field trips on site. To help teachers lead their own field trips, Edukits are issued by some parks. The teacher then becomes centrally involved in the outing and the interpreter is free to accomplish other tasks. The kits are a good way to overcome the problems of a small winter staff.

In Gros Morne the local schools are seen as one of the best mediums for transmitting the 'parks message'. Every child receives a copy of the park newsletter and interpreters make frequent visits to the schools, especially during events such as Education and Environment Weeks.

When we asked whether more interpretation is needed to ensure safety in winter recreation, we received 12 affirmative and 4 negative responses; 7 other parks successfully avoided the question. Those who replied 'yes' fear mainly for the overnight skier or snowshoer out in 'winter weather'. Several strategies have evolved to deal with this problem: Fundy has set up a survival exhibit; Pukaskwa employs a sign in/sign out system; other parks issue brochures, post signs and hold survival workshops. Those who replied 'no' felt that safety wasn't a major problem because most of their visitors are day users who never stray too far from the roads.

Visitor safety becomes a critical concern as winter use of parks increases. Increased numbers also mean greater pressures on staff and

budget. To anticipate these pressures we wanted to know if winter use of the parks is increasing. And indeed it is in 16 of the parks, although quite slowly in some. It seems that the parks with designated winter facilities (e.g., ski runs in Banff, skiing refuge in La Mauricie) have the grestest increases. In most cases the greater number of visitors is attributed to the rising popularity of cross-country skiing and general fitness.

The 'not-increasing' responses came from the following: Auyuittuq, Nahanni and Kluane, which are all hampered by distance and extreme weather conditions; Gros Morne where winter users are almost exclusively from the local communities; Glacier where there is a risk of avalanches; and St. Lawrence Islands where accessibility to the islands is a problem and they are plagued by poor snow and ice conditions.

User statistics are of prime consideration when one speaks of interpretive programme expansion. Only 12 of the parks anticipate future expansion, 4 could not say and 7 replied that it was unlikely. Some felt that expansion is necessary to accommodate the growing numbers of cross-country skiers. In Wood Buffalo they plan to facilitate this by making co-operative arrangements with local outfitters.

The negative responses came from those parks with low winter use statistics and from those where there were funding and staff constraints.

We wanted to know what successes people had experienced with winter interpretation and of course the responses varied from park to park. A partial list includes:

- P.E.I.'s Edukits have been integrated into the local school curriculum
- Georgian Bay Islands has good use made of its visitor centre
- Appreciation of Nahanni has increased because of slide show presentations
- Pukaskwa, Wood Buffalo, Terra Nova, and St. Lawrence Islands all claim success with their school programmes
- Prince Albert has gained 'converts' through their hotel programme.
- Banff continues to get greater and greater numbers of visitors

Finally we asked people what problems they faced. Without a doubt lack of funds and inadequate staffing were the two major ones cited. At least 10 parks listed one or both of these factors as obstacles. Also viewed

as problematic by several parks were weather and winter driving conditions, while less frequently noted were:

- the lack of food services in winter
- the fact that planning priorities take precedence in Gros Morne and Pukaskwa
- the lack of advertising
- the fact that winter use is almost exclusively on weekends
- there are no national guidelines for extension programmes
- especially in winter, you preach to the converted
- the mentality of the downhill skier
- "elk droppings gumming up the ski trails" in Prince Albert!

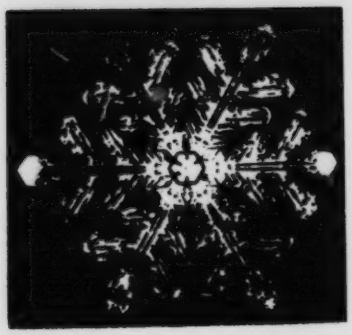
Conclusion

There is indeed a demand for winter interpretation in our national parks and it is expected to grow in the near future. Currently the demand is being met by short-staffed and under-funded programmes. One gets the impression that they aren't reaching their full potential.

It is necessary that the 'seasonality' of interpretation be re-evaluated. A skeleton winter staff can keep the visitor centre open, but it cannot cater to the interests of a public unwilling to abandon nature and the outdoors - our natural heritage - for the six cold months of the year.

With the projected increases in winter use, staff size becomes critical with regard to visitor safety. More and more people are keen to face winter weather but, in general, they are ill-prepared to deal with it. Parks must evolve some sort of strategy to deal with survival-education.

As programmes develop most of the obstacles cited will be overcome, except perhaps the weather, and that of course should be an integral part of winter interpretation. But funding must be sufficient to allow such programme development. Conferences such as this can highlight ideas and strategies but it takes money and manpower to implement them.



WINTER INTERPRETATION BY ONTARIO CONSERVATION AUTHORITIES

Sigrid Johnson
Trent University

There are 39 Conservation Authorities in Ontario at present. The main roles of the Authorities relate to flood and erosion control and thus they are formed on a watershed basis. They also co-ordinate projects in the field of conservation and resource management. In order to get the most public benefit from lands acquired for water management and conservation, the lands belonging to the Authorities are often developed for outdoor recreation use.

Ontario is the only province which has Conservation Authorities, of which all but 5 are located in south and south-eastern Ontario. The majority of the Conservation Areas are located in the more populated regions, where the need is greatest for regulation of floodplains and erosion. Thus, their proximity to the cities and towns of southern Ontario provides for excellent opportunities for winter recreation and interpretation programs for people not wanting to stray too far from home.

The response of the 39 Authorities to the questionnaire was relatively favourable. Twenty-four replied that they had some sort of winter interpretation program; fifteen did not. Of the 24, all of them indicated that they had some sort of school extension program; they ranged in description from extended stays at outdoor education centres to unstructured programs run on a request basis from schools. Generally, (see Chart 1) these programs consist of recreational activities such as cross-country skiing, snowshoeing, skating, and tobogganing. Guided hikes for plant and wildlife identification, snow and ecology studies, and orienteering are included in some. Indoor programs

include nature and recreation films, lectures, displays, and slide shows. Nickel District, Ganaraska, and Credit Valley also offer winter survival programs for their school groups.

Thirteen Conservation Authorities have special weekend programs for the public. Seven Authorities mentioned that they have maple syrup demonstrations for both school groups and the public in the spring.

As far as successes of the winter interpretation programs go, all of those with school programs felt they were reasonably successful, especially the recreational aspects. Maitland Valley expressed pride in its direction of a program whereby volunteers from local high schools help the Authority staff run winter programs for the younger school groups. Other special programs with good results were: teachers' workshops, held in the fall to give the teachers an idea of what facilities existed and what the programs were all about; ski rentals at Upper Thames; snowshoe rentals at Lower Thames; an annual ski loppet at Ganaraska; a special family ski-day at Lower Trent; a toboggan building workshop at Metro Toronto; and 'Owl Prowls' and Bird Banding at Halton.

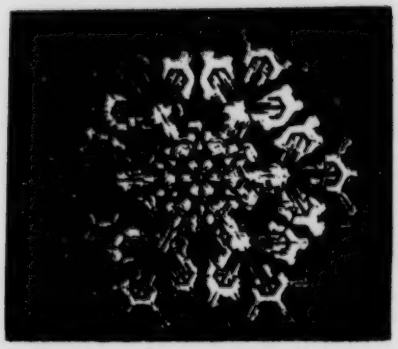
The main problems cited by the Conservation Authorities were financial difficulties and lack of staff to carry out the programs. Weather conditions were also a common concern, ranging from no snow in Niagara Penninsula, to severe cold in Nickel District. Credit Valley and Upper Thames expressed lack of facilities as a problem, and Napanee and Prince Edward Region felt their biggest constraint was lack of demand. Strangely enough, Lower Trent was the only Authority which mentioned vandalism as a problem and South Lake Simcoe was the only one to mention the conflict between motorized recreationists on snowmobiles, and the skiers and snowshoers. The Rideau Valley lamented the fact that many groups came with little school preparation, and Nickel District lamented the destructive nature of its winter survival programs which include the building of lean-tos and fires.

As far as improved information to ensure safety in winter activities, 14 Authorities felt it was a good idea to educate the public more in this aspect; 5 said it wasn't necessary and 18 had no opinion at all. Some safety problems mentioned as being quite serious were: the fact that the public is unaware of hypothermia and frostbite dangers; and the fact that skiers often use roads for trails.

Though 29 Authorities felt winter use of their areas was increasing, only 23 felt further expansion of their winter interpretation programs was likely. The main obstacles to winter program exapansion were cited as lack of funds for staff and facilities, and the weather. Coping with weather conditions can be incorporated into part of the winter learning experience, but finances to run the programs are another matter. It seems that the opportunity for year round use of Conservation Authorities for recreation and educational purposes, has too much potential to be overlooked simply due to lack of funds. Perhaps the answer lies in equal distribution of the interpretation budget between the summer and winter months, or assistance from local school boards to keep program facilities open.

CHART I	Downhill Skiing	Cross-Country Skiing	Snowmobile Trails	Nature Hikes	Winter Survival	Historic Site Interp.	Indoor Programs	Teacher Workshops	Maple Syrup Programs	Special Public Events	School Groups
Cataraqui Region		x	x								x
Sauble Valley		x									
Saugeen Valley		x		x				x			x
Lakehead Region		x									
North Grey											x
Nottawasaga Valley		x							x		
Hamilton		x		x			x		x	x	x
Mattagami Region		x									
Raisin Region		x									
Crowe Valley		x									
Ausable Bayfield		x	x								
South Nation River											

CHART I	Downhill Skiing	Cross-Country Skiing	Snowmobile Trails	Nature Hikes	Winter Survival	Historic Site Interp.	Indoor Programs	Teacher Workshops	Maple Syrup Programs	Special Public Events	School Groups
St. Clair Region		x	x								
Central Lake		x		x			x		x		x
Moira River		x		x							x
Niagara Penninsula		x		x		x	x				x
South Lake Simcoe		x	x	x						x	x
Mississippi Valley		x						x			x
Long Point Region		x									x
Maitland Valley		x		x			x		x	x	x
Catfish Creek		x		x			x				x
Lower Trent Region		x		x					x	x	x
Ganaraska Region		x	x	x			x			x	x
Grand River		x		x						x	x
Upper Thames River		x		x	x					x	x
Kawartha Region											
Metro Toronto & Region		x		x			x			x	x
Lower Thames Valley		x		x		x	x			x	x
Essex Region		x		x		x				x	x
Prince Edward Region		x									
Halton Region		x		x						x	x
Napanee Region		x									x
North Bay-Mattawa		x		x			x				x
Nickel District		x		x	x						x
Rideau Valley		x		x			x		x	x	x
Kettle Creek									x	x	x
Sault Ste. Marie		x									x
Credit Valley		x		x	x		x				
Otonabee Region		x									x



A SURVEY OF WINTER PROGRAMS AT ONTARIO'S OUTDOOR EDUCATION CENTRES

Elizabeth Symons
Trent University

Winter outdoor recreation is rapidly increasing across Canada. With "Participaction" and other "Get Fit" programs, Canadians are no longer retreating indoors to ignore the cold and snow, they are assaulting it face on. Winter can be the best time to indulge in recreational activities and what better place to introduce young Canadians to the invigorating joys of winter recreation than outdoor education centres?

A survey was mailed to 100 centres in Ontario to determine what kind of programs are available where during the winter months. Increased knowledge of the availability of such resources will hopefully result in greater use of them by schools, hence Canada's youth will develop a positive attitude to winter.

Fifty of the one hundred questionnaire's were sent to those centres and schools listed on the Council of Outdoor Educators (COEO) publication, The Catalogue of Programs and Personnel on Outdoor Education in Ontario, that mentioned winter activities as part of their program. Forty-five completed questionnaires were returned.

The St. Clair Region Conservation Authority in Strathroy, Ontario, Kenora District Separate School Board, and the Bolton Conference Centre in Bolton were the centres which did not offer winter programs (for a complete list of the respondents, see the end of this article). None of these centres, however, gave a reason for not offering winter programs.

The most popular activities in terms of recreation are cross-country skiing and snowshoeing, with thirty four centres offering both. Eight centres offer orienteering, compass and map skills. This activity

is generally offered where snowshoeing and/or cross-country skiing is available. Fifteen centres conduct snow ecology studies for visitors; ten have instruction in winter survival and man's adaptation to winter; eleven offer woodlot management programs; six have winter camping and seven offer a sugar bush.

Several questionnaires indicated that winter programs were offered, but they failed to follow up with a listing of activities. A few simply replied that they offered "Outdoor education" or "school extension programs".

Wildlife management, conservation, geology, water management, ice studies, and Indian and Pioneer crafts are offered at seven, five, five, three and six centres respectively. How animals, plants and birds adapt to winter are among the most popular programs in education offered at centres surveyed. Twenty-seven offer bird and animal studies in winter, twenty-two offer plant adaptation studies in the winter. Some of the more interesting and unique winter activities offered are as follows:

*winter photography - Taguanyah Nature Centre
- G.W. Finlayson Field Centre
- Niagara Peninsula Conservation Authority

*ice fishing - Camp Wanakita
- Ontario Pioneer Camps

*night hikes - Taguanyah Nature Centre
- Camp Kandalore

*Eskimo games - Camp Kandalore

*farm operation and chores - Boyne River Natural Science School
- Sheldon Valley Farm and Studies Centre

*"owl prowl" - Etobicoke Field Study Centre
- App's Mill Nature Centre
- Taguanyah Nature Centre
- Laurel Creek

*winter camp cooking - Bruce County Board of Education

*trapping - Bishop Belleau School

*logging, timber cutting - Hamilton Board of Education

*Ska-Nah-Doht Indian Village - Lower Thames Valley Conservation Authority

*Puppet show in the snow and "touch table" display for junior Kindergarten - Dundas Valley Trail Centre

*blindfold walk in snow for
sensory perception - Credit Valley Conservation Authority

*snow sculpture - Hamilton-Wentworth Separate School Board

All of the forty-three centres offering winter programs replied that their successes were illustrated in terms of increased bookings for use, increases in the number of return visits and a very high interest rate as expressed by users. As the MacSkimming Outdoor Education Centre replied, "Ever increasing demand for bookings reflects acceptance or success." The Grand River Conservation Authority replied "the programs have been quite successful with the winter season being the busiest". The Ontario Pioneer Camp stated that their number of bookings and program users has doubled in the last two years.

Snowshoeing and cross-country skiing are overwhelmingly the most numerous programs offered, and are listed by centres as the most successful portion of their entire program. The Niagara Peninsula Conservation Authority, Sheldon Valley Farm, Etobicoke Field Studies Centre, Moira River Conservation Authority and the Grand River Conservation Authority all replied that an increase in the number of skiers using their areas is an indication of success. Another indication of success as listed by the G.W. Finlayson Field Centre is demand for use by other groups, i.e., secondary school outers clubs.

The problems listed ranged from unpredictable weather (the most common complaint), to inadequate class prepartion related to subject matter (Ontario Pioneer Camp, Rideau Valley Conservation Authority, and dress (Metropolitan Toronto and Region Conservation Authority), and discipline (Ontario Pioneer Camp). Vandalism (Moira River Conservation Authority), cancellation in extreme cold (-30 degrees Celsius at Petawawa National Forestry Institute), finding competent and responsible staff (Grand River Conservation Authority), inadequate funds (Camp Kandalore, Norfolk Board of Education), snowshoe breakage (Oxford County Board of Education) and children's low tolerance to cold (Sheldon Valley Farm) are the major problems encountered by those who replied.

Eighteen centres expect increased winter use of their facilities in the future. These eighteen include the Bolton Conference Centre which does not offer a winter program at present but is in the process of winterizing its facilities to operate year round in the future.

Many do not expect increased use as they are operating at capacity now (Hamilton-Wentworth Separate School Board, Sheldon Valley Farm). The Rideau Valley Conservation Authority hopes to increase the use of their facilities for the general public, but their operating school program is already at capacity. A few of the centres are increasing their cross-country trails, and improving them through grooming and trail marking to provide a better experience for skiers. Camp Hollyburn does not expect increased use in the immediate future, as they are "not interested in volume."

Only twenty-nine of the forty-three centres offering winter recreation/interpretation programs are open to groups other than schools. These include Boy Scouts, Girl Guides, Seniors, conferences, retreats, retarded people, hanicapped people and the general public. The Norfolk Board of Education is not open to other groups, but will loan out their equipment for use by groups other than schools. The reply sent in by Hockley Valley, is that "anybody (can rent) who will treat the property with respect."

The remaining thirteen centres do not rent or loan their equipment or facilities to groups other than schools. Generally this is because the centres are at capacity now with school use. Any other requests for use, excluding day use of ski, nature and snowshoe trails, are placed at the bottom of the waiting list.

The following three statements reflect the opinions of most centres offering winter programs to schools, as to the major obstacle to more winter recreation/interpretation:

> The one major obstacle to overcome is convincing teachers that cold weather is not a deterrent to an interesting and enjoyable outdoor learning experience. (MacSkimming Outdoor Education Centre)

> School Boards' attitude is that outdoor education is a 'frill', i.e., a luxury that can only be afforded when everything else is looked after; and teachers are reluctant to take on extra responsibility. (Hockley Valley)

> ... not being able to reach and convince more teachers and leaders to use outdoor facilities in all seasons, not just spring and fall. (G. Howard Ferguson Forest Station)

The Blair Outdoor Education Centre replied that "winter has excellent program potentials" and should be used accordingly.

Other major problems are funding for transportaion, heat and

equipment, and the weather. This past winter was a particularly severe one for outdoor activities due to the variety of climatic conditions. One centre rported that the children were playing in the mud in mid-February. Concern was also stressed regarding lack of reliable staff, the possibility of over-use of trails, and lack of proper education of the visiting teacher.

Conclusion

The success of winter outdoor programs for schools appears to be good, where offered. Those centres that returned questionnaires and offer winter recreation and interpretation programs reported good overall success with few minor problems. The unpredictability of the weather is listed as both a problem and an obstacle; however not much can be done, as yet, to make Mother Nature co-operate. Careful planning (i.e., alternate programs) should be employed in order to avoid cancellations due to severe cold weather. Children should not be denied the experience, even if it is spent mostly inside at the centre. Information should be sent regularly to teachers, parents and school officials regarding past success, number of return visits, up-coming events and children's response to the program to convince them of the value of winter programs. Another suggestion to open the lines of communication is to have weekend or day trips exclusively for parents and teachers to the outdoor education centres. By allowing them the experience of a winter ski or moonlight snowshoe, they will be convinced of its value to students.

This is not a complete survey of all facilities offering winter programs. It cannot be assumed that the 45 unreturned questionnaires indicate no winter program at those centres.

This preliminary survey suggests that winter recreation and interpretation programmes are successful. In addition there is a great demand for such programs. Perhaps other centres should expand to incorporate winter activities into existing programs. This would serve to alleviate the problems of over-booking encountered by current facilities.

Ten questionnaires were returned unopened stamped "address unknown." Further research should include an update of the COED publication to add new addresses, new centres and facilities offering winter programs.

Chart 1

PROGRAM

CENTRE	Winter Programme	plant adaptation	animal/bird adaptation	slide show	snowshoeing	X-Country skiing	wildlife management	woodlot management	sugar bush	skating	tubing	broomball	Indian/Pioneer crafts	conservation	orienteering	geology	water management	winter and man	camping	snow ecology
App's Mill Nature Centre	x	x	x		x	x		x	x					x			x			x
Bishop Belleau School	x	x	x		x								x							
Blair Outdoor Educ. Centre	x	x	x		x	x		x							x					
Bolton Conference Centre																				
Boyne River Nat. Science School	x		x		x	x		x	x				x		x	x		x	x	x
Bruce County B. of Education	x	x	x		x	x											x			x
Bruce-Grey County R.C.S.S. Board	x				x	x		x												
Camp Hollyburn	x					x														
Camp Kandalore	x	x	x	x	x	x				x			x		x			x	x	
Camp Wanakita	x	x	x			x				x		x							x	x
Cold Creek Centre	x	x	x																	x
Credit Valley C.A.	x	x	x		x									x	x	x				x
Crieff Hills Commun.	x		x		x	x	x	x		x										
Dundas Valley Trail Centre	x				x	x									x					
Etobicoke Field Studies Centre	x	x	x		x	x	x	x					x		x			x		x
J. Howard Ferguson Forest Station	x	x	x	x	x	x														
J. W. Finlayson Field Centre	x	x	x		x	x			x								x		x	
Guelph Lake Interpretative Cen.	x	x	x		x	x			x	x					x		x			x

Chart 1 (cont.)

CENTRE	PROGRAM																					
	Winter Programme	Plant adaptation	Animal and bird adaptation	Slide show	Snowshoeing	X-country skiing	Wildlife management	Woodlot management	Sugar bush	Skating	Tubing	Broomball	Indian/Pioneer crafts	Conservation	Orienteering	Geology	Water management	Winter and man	Camping	Snow ecology
Hamilton Board of Education	x				x	x									x					
Hamilton Wentworth Separate School Board	x				x	x				x		x								x
Hockley Valley	x	x	x			x	x	x												x
Jack Smythe Field Centre	x	x	x		x	x			x							x		x		
Laurel Creek Nature Centre	x				x	x		x	x					x						x
Leslie M. Frost Nat. Res. Centre	x	x	x		x	x	x	x		x	x	x								
Lower Thames Valley Conserv. Authority	x				x	x							x							
MacSkimming Outdoor Education Centre	x																	x	x	
Mansfield Forest Club	x				x	x														
Merrick Field Cen.	x		x				x	x												
Metro. Toronto Reg. Conserv. Authority	x					x														x
Moira River Conser. Authority	x					x														
Niagara Peninsula Conserv. Authority	x		x		x	x														
NCC Conserv. Centre	x	x	x		x	x														
Nonquon Environm. Education Area	x	x	x	x	x	x	x													
Norfolk Board of Education	x				x	x													x	

PROGRAM

Chart 1 (cont.)

CENTRE	Winter Programme	plant adaptation	bird/animal adaptation	slide show	snowshoeing	x-country skiing	wildlife management	woodlot management	cedar bush	skating	tubing	broomball	Indian/Pioneer crafts	conservation	orienteering	ecology	water management	winter and man	camping	snow ecology
Northumberland & Newcastle B. of Ed.	x			x	x	x							x							
Ontario Poineer C.	x	x	x		x	x				x	x	x						x	x	x
Whawa District C. Scouts Canada	x																			
Oxford County B. Of Education	x	x	x		x	x	x											x		
Petawawa National Forestry Institute	x				x															
Pine River Outdoor Education Centre	x																			
Resource Management Centre	x				x	x									x					
Rideau Valley Conservation Auth.	x	x	x	x	x	x														x
Sheldon Valley Farm & Studies Centre	x	x	x		x	x												x		x
Tsuanyah Nature Centre	x		x		x				x				x				x			x
Warren Park Outd. Education Centre	x	x	x		x	x												x		

Centres offering winter interpretation/recreation programs:
(address and contact person included where given)

1. App's Mill Nature Centre
   c/o Grand River Conservation Authority
   400 Clyde Road
   P.O. Box 729
   Cambridge, Ontario
   N1R 5W6
   Mr. Peter Pautler
   Natural Resource Interpreter

2. Bishop Belleau School
   P.O. Box 340
   Moosonee, Ontario
   P0L 1Y0
   Mr. Maxwell

3. Blair Outdoor Education Centre
   R.R. # 33
   Cambridge, Ontario
   N3H 4R8
   Donald H. Morrison

4. Bolton Conference Centre
   P.O. Box 151
   Bolton, Ontario
   L0P 1A
   Ivan Robinson

5. The Boyne River Natural Science
   School
   R.R. # 4
   Shelburne, Ontaro
   L0N 1S0
   Mr. C.A. Hopkins

6. The Bruce County Board of Education
   Chelsey, Ontario
   N0G 1L0

7. Bruce-Grey County Roman Catholic
   Separate School Board
   P.O. Box 187
   Hanover, Ontario
   N4N 3C4
   J. Melody

8. Camp Hollyburn
   Rosseau Post Office
   Muskoka, Ontario
   P0C 1J0
   W.E. Yard

9. Camp Kandalore
R.R. # 2
Minden, Ontario
K0M 2K0
Fred Loosemore

10. Camp Wanakita
79 James Street South
Hamilton, Ontario
L8P 2Z1
Rob Heming

11. Cold Creek Centre
c/o Metropolitan Toronto & Region Conservation Authority
5 Shoreham Drive
Downsview, Ontario
M3N 1S4

12. Credit Valley Conservation Authority
Meadowvale, Ontario
L0J 1K0
G. Roberts

13. Grieff Hills Community
R.R. # 2
Puslinch, Ontario
N0B 2J0
Rev. R. Spencer

14. Dundas Valley Trail Centre
c/o Hamilton Region Conservation Authority
P.O. Box 99
Mineral Springs Road
Ancaster, Ontario
L9G 3L3
B.D. Laing

15. Etobicoke Field Studies Centre
R.R. # 8
Brampton, Ontario
L6T 3Y7

16. G. Howard Ferguson Forest Station
R.R. # 4
Kemptville, Ontario
K0G 1J0
Barb Clarke, Nursery Interpreter

17. G.W. Finlayson Field Centre
R.R. # 1
Alton, Ontario
L0N 1A0
H.W. McPherson

18. Guelph Lake Interpretive Centre
R.R. # 4
Guelph, Ontario
N1H 6K1

19. Hamilton Board of Education
P.O. Box 558
Hamilton, Ontario
L8N 3L4

20. Hamilton-Wentworth Separate School Board
186 Crockett Street
Hamilton, Ontario
L8V 1H2
Jerry Best

21. Hockley Valley
R.R. # 1
Orangeville, Ontario
L9W 2Y8
Frank Saul

22. Jack Smythe Field Centre
R.R. # 1
Alton, Ontario
L0N 1A0
Hugh McPherson

23. Laurel Creek Nature Centre
R.R. # 3
Waterloo, Ontario
D. Wendland

24. Leslie M. Frost Natural Resources Centre
Dorset, Ontario
P0A 1E0
George A. Hamilton

25. Lower Thames Valley Conservation Authority
100 Thames Street
Chatham, Ontario
N7L 2Y8

26. MacSkimming Outdoor Education Centre
R.R. # 2
Cumberland, Ontario
Rod Ferguson

27. Mansfield Forest Club
Mansfield, Ontario
L0N 1M0

28. Merrick Field Centre
c/o Hamilton Region Conservation Authority
P.O. Box 99
Mineral Springs Road
Ancaster, Ontario
L9G 3L3
B.D. Laing

29. Metropolitan Toronto & Region Conservation Authority
5 Shoreham Drive
Downsview, Ontario
M3N 1S4

30. Moira River Conservation Authority
217 Front Street
Belleville, Ontario
K8P 3C3

31. Niagara Peninsula Conservation Authority
P.O. Box 460
Fonthill, Ontario
L0S 1E0
Glenn Meyers

32. National Capital Commission Conservation Centre
R.R. # 7
Nepean, Ontario
K2H 7V2
D.F. Wolthausen

33. Nonquon Environmental Education Area
Durham Board of Education
555 Rossland Road, West
Oshawa, Ontario
L1J 3H3
Bill Crammer

34. The Norfolk Board of Education
P.O. Box 159
Langton, Ontario
Don Hurst

35. Northumberland & Newcastle Board of Education
323A George Street
Cobourg, Ontario
K9A 3L9
Audrey Wilson

36. Ontario Pioneer Camps
Port Sydney, Ontario
P0B 1L0
Jane MacLachlan

37. Oshawa District Council
Scouts Canada
1711 Simcoe Street, North
Oshawa, Ontario
L1G 4Y1
Thomas E. Albion

38. The Oxford County Board of Education
P.O. Box 636
Woodstock, Ontario
N4S 7Z8

39. Petawawa National Forestry Institute
Chalk River, Ontario
K0J 1J0

40. Pine River Outdoor Education Centre
General Delivery
Horning's Mills, Ontario
L0N 1J0

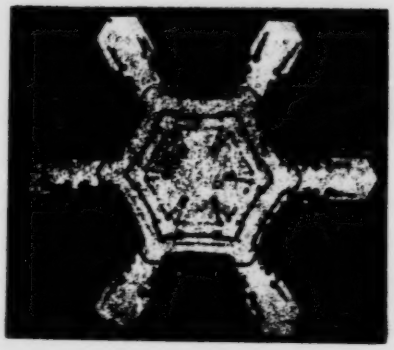
41. Resource Management Centre
c/o Hamilton Region Conservation Authority
P.O. Box 99
Mineral Springs Road
Ancaster, Ontario
L9G 3L3
B.D. Laing

42. Rideau Valley Conservation Authority
P.O. Box 599
Manotick, Ontario
K0A 2N0
C. Billington

43. Sheldon Valley Farm & Field Studies Centre
R.R. # 1
Alliston, Ontario
L0M 1A0

44. Taguanyah Nature Centre
R.R. # 4
Cayuga, Ontario
N0A 1E0

45. Warren Park Outdoor Education Centre (Joel Nasimok)
135 Varsity Road
Toronto, Ontario



INDIAN LIFE IN WINTER

Edward S. Rogers
Curator
Department of Ethnology
Royal Ontario Museum
Toronto, Ontario

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Winter, of all seasons of the year, posed the greatest challenge for the Indians of Canada. They had to use every bit of their extensive ingenuity to survive. Even so, at times extreme hardships prevailed. Game animals were difficult to hunt, most birds had left for the south, fish restricted their movements and vegetation was dormant. Of the four groups - Micmac, Northern Ojibwa, Blackfoot and Nootka - life during the winter months was easiest for the Nootka; hardest for the Northern Ojibwa.

Many years have passed since the Micmac of Nova Scotia spent a winter as depicted here. Although few if any became assimilated into Euro-Canadian society, their lives have changed greatly since contact with the European, an event that occurred over four hundred years ago.

In former years, winter for the Micmac meant living in small family groups dispersed throughout the tribal territory. Their land was heavily forested and home to the moose, lynx, beaver, hare and many other species. As winter approached, the people abandoned their coastal camps and began travelling upstream along the various rivers that led into the interior, where they would remain until spring. As each party arrived its leader selected a location that would be suitable for the long winter months ahead. Here the women, working together, erected several conical lodges, one for each family. First, they carefully secured a number of long straight poles that were evenly erected in a circle and converged at the top to form a cone. Next, this framework was covered with birch-bark. Afterwards, the women gathered spruce or fir boughs with which to cover the earth floor, except in the centre where a space was left for an open

fire. The smoke from the fire - one that was kept constantly burning - escaped through an opening left at the top of the lodge.

For the Micmac, life during the short dark days of winter was usually a struggle to find enough to eat. Ice fishing was one means to survive. In a favourable location, the fisherman cut a hole through the ice and surrounded it with several poles, the butt ends embedded in the ice and snow at such an angle that they converged at the top where they were tied together. The frame was covered with hides. During the day, the fisherman sat within this enclosure on a piece of hide and waited and watched for fish. When one passed by, he attempted to spear it.

Big game animals were other sources of food. The Micmac considered the meat of moose the finest of any game they caught. When the snows became sufficiently deep, the Micmac hunter, wearing snowshoes, could run moose down and dispatch them. Bears, an occasional source of food, were considered almost sacred and had to be treated with great respect when being hunted, dressed, cooked and eaten. Sometimes during the winter a hibernating bear would be located. The animal was speared through the opening to its den and dragged from its lair. In January those Micmac who remained near the coast had an opportunity to kill seal.

Another animal of importance for its flesh and hide was the beaver. During the winter when the beaver's lodges were hidden under the snow, the Micmac used dogs trained for the task of finding them. At other times a medicine man would peer into a bowl of water and through deep concentration, he would perceive the location of the beaver lodges.

Once a lodge had been found the men cut a hole through the ice directly above the entrance to the lodge. At some distance from this hole, another was cut through the ice covering the pond. Here, one or two hunters took their stand to shoot any beaver that tried to escape. Their weapons consisted of a bow and arrow, the latter tipped with a harpoon head. One end of a cord was attached to the harpoon head and the other end was held by the hunter. Once these men were at their station, another went to the first hole where he lay down upon the ice. He then reached inside the beaver lodge and sought to drag the beaver, one at a time, out onto the ice by their tails. The animals were then clubbed. Eventually, the remaining beaver became alarmed and left the lodge. Seeing the second hole in the ice, the fleeing beaver headed for it, but when they arrived at the hole, hunters were waiting. In this manner, all the beaver in one

house could usually be dispatched.

Whenever an animal was killed, the women were expected to proceed immediately to the spot and, if it was a large animal, to butcher it where it had fallen. They then transported the meat and hide home. Smaller animals were brought back intact by the women to be dismembered later. The meat was cooked by roasting beside an open fire or stone boiling in large wooden troughs. The grease was saved and stored in birch-bark boxes or animal bladders.

The Northern Ojibwa inhabited the black spruce forests of northern Ontario; the country during the winter was blanketed deeply with snow

A Micmac medicine man could direct hunters to the location of beaver lodges by peering into a bowl of water. At other times trained dogs searched out the beaver.

A Northern Ojibwa hunter in winter clothing of woven rabbit skins and wearing wooden snowshoes. Below, his moss-covered winter lodge.

and the many lakes and rivers were frozen solid. Like the Micmac, the Northern Ojibwa spent the winter living in small family groups, each within a circumscribed territory. But unlike the Micmac, they often travelled greater distances and moved their camps more frequently in search of food. The much harsher climatic conditions of Northern Ontario meant that resources were less abundant than in the Maritimes where the Micmac resided. Furthermore, by the end of the first quarter of the nineteenth century, caribou had become scarce and moose were virtually exterminated on the lands of the Northern Ojibwa. (Not until the present century did moose return in any number. Caribou, though, continued to be scarce.) The Northern Ojibwa therefore had to seek other sources of food. Instead of big game, they now subsisted primarily on fish, and hare when the latter were abundant, as they were about every seven years. Only occasionally did they have the opportunity of killing caribou or moose.

Winter camps were situated on the shores of fishing lakes and if possible near locations that abounded with hare. If any families continued to inhabit their fall camp, as occasionally some did, they most likely

would still be living in moss-covered conical lodges. Toward the end of the nineteenth century some families began to replace these lodges with log cabins. Both types of shelters had to be vacated and left behind once their occupants began to move about the countryside in search of food. Then, portable lodges came into use. These consisted of conical and ridge-pole lodges covered with either spruce boughs, bark or canvas.

Winter clothing was made largely from hare skins. Rarely could the people secure sufficient hides of caribou and moose to make the type of clothing they had worn in former years. Moccasins might even be made of fish skins. The paucity of moose and caribou hides meant that the construction of laced snowshoes was curtailed. To overcome this situation, the Northern Ojibwa began to make and wear wooden snowshoes.

At this time of year, fish - whitefish, pike, walleye and ling - provided the greatest amount of food for most of the people. But not all lakes contained large numbers of fish and small lakes might provide sufficient for only a week or two. When the catches became so small as not to be worth the effort, camp had to be struck and the group moved on to richer fishing grounds. Fishing through ice, as was necessary during the winter, was not easy at any time but was most difficult in late winter when the ice had reached its maximum thickness of three to five feet. In order to capture the fish, a gill-net had to be set under the ice. To accomplish this, several holes, twenty feet or so apart, were cut in a line from shore with an ice chisel. During the latter part of winter, trout were taken on set lines or by angling through a hole in the ice.

When hare were abundant, the entire group - men, women and children - worked together to set tossing-pole snares in favourable spots - especially in stands of Banksian pines. To encourage more hares to frequent the area, some of the smaller pines would be felled. Spring-pole snares could not be used in winter since the pole would freeze and become inoperative.

Even though big game was not numerous, moose and caribou would be sought whenever there were signs of their presence near the group's camp. Deep snows favoured hunting these animals, for then their movements were impeded, making it difficult for them to elude the hunters. A favourite method of hunting moose was by 'side-tracking'. Some Northern Ojibwa used a large stationary snare with which to capture moose.

The Blackfoot, a people of the high plains of Alberta, often found

winter as difficult at times as did the Micmac and Northern Ojibwa. It was impossible for them to remain out on the open plains because of the bitterly cold winds that swept down from the north-west unopposed by any forest. Furthermore, the bison on which the Blackfoot depended for so much - food, clothing, utensils and containers, tools and shelter - had migrated south or had made their way in small groups into sheltered spots in the river valleys. The Blackfoot followed suit.

A Blackfoot man in winter clothing.

By late October or early November the band chief had selected the location where he and his followers would spend the winter. The large encampments of the summer and fall were abandoned and small parties or bands under the leadership of a chief made their way to their favourite river valley where the trees would provide protection from the winter winds and drifting snow. Here in a clearing, they erected their tipis. The site would be located near a stream where they could obtain drinking water for themselves and their horses, close to cottonwood trees for firewood and to grass for their horses. As it grew colder, camp was moved back into the woods for additional protection. Here the band remained for the rest of the winter. They would move camp only if they ran short of food for themselves or grass for their horses. If during the previous fall the hunters had been successful in killing a good many bison, there would be plenty of pemmican to sustain them and their families for the greater part of the winter. If the hunts had been poor, the men would be forced to spend much of their time in pursuit of whatever game could be found in the vicinity of camp. With luck they might secure bison, elk or mule deer; if not, they would have to seek smaller game.

The most difficult and precarious time of the year for the Blackfoot came toward the end of March. At this time, the bison began to move out of the valleys and up onto the plains where they would remain throughout the summer. The Blackfoot of necessity followed the herds or subsisted where possible on small game.

To withstand the winter's cold, the Blackfoot dressed warmly even though they were sheltered from the north wind. Their winter clothing was not eleborately decorated, contrary to the popular view of the Plains Indian. Men and boys, when venturing outside, donned bison-hide caps with ear flaps, bison robes with the hair worn next to the body and mittens and moccasins stuffed with animal hair. The women and girls wore undecorated dresses over which they threw bison robes or trade blankets. Their moccasins, mittens, and caps were the same style as those worn by the men and boys.

As the long winter slowly passed, the Blackfoot became increasingly concerned about spring. One way of lessening their anxiety was to keep track of the passage of time. To do this the owners of medicine bundles (usually the shaman) daily notched a stick and could then foretell about when winter would end.

Two and a half centuries or more after the Micmac had been contacted by Europeans, the Nootka were 'discovered'. At this time they lived in a series of villages located on the west side of Vancouver Island. Their environment was quite different from that of the Micmac, Northern Ojibwa and Blackfoot. They, in contrast to the others, were oriented and equipped to gain an abundance of food from the surrounding waters and to a much lesser extent from the land. The ocean provided whale, seal and varied salt-water fish; and the tidal zone, such foods as clams and crabs. Although the land provided the Nootka with little food, it did provide them with the necessary resources from which to fashion much of their material culture. The forests of giant trees were used to good advantage in the construction of their homes, household furnishings, and canoes.

But winter on the outer coast of Vancouver Island was not attractive to a people who depended upon the use of the dugout canoe for travel and acquiring food. Because of strong winds, the ocean was in constant turmoil; cross currents made it choppy and dangerous to navigate. Such conditions lasted from early fall till late spring. Accordingly, those Nootka who had spent the summer along the coast moved back into sheltered

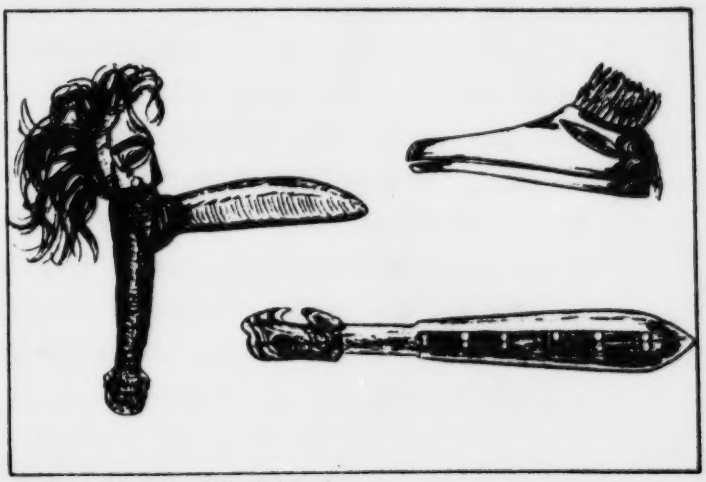
coves on the upper reaches of the inlets for the winter.

Nootka families, in homes of red-cedar siding with a winter's supply of dried salmon, had leisure time to engage in dancing and singing.

During the course of any one year, the Nootka would occupy three principal villages. One, as noted, was inhabited during the winter and located in a sheltered spot at the head of an inlet. A second village was situated at the group's main salmon-fishing station on a particular stream and a third on the outer coast where most of the Nootka spent each summer. Although each Nootka group had three principal villages, families did not have complete houses in each village. The Nootka were economical. Extended families erected a permanent house frame at each village site but moved the wall and roof boards every time they transferred their residence. The boards of red cedar were hung horizontally and overlapped like shingles on the four sides of the house. The roof planks were supported on a ridge

pole and side plates to form a double-pitched roof but at such a low gradient that from a distance the roof appeared flat. With their large dugout canoes, it was not a difficult feat to transport the planks from one village site to another.

Nootka man wearing a spruce-root hat and a woven cedar-bark rain cape.

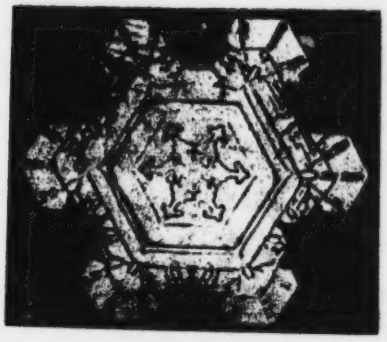


Nootka artifacts: slave killer (left) and whale bone club, and (above) a mask.

During the winter, the quest for food was at a virtual standstill. Earlier in the year, large quantitites of food had been secured and preserved for use at this time. The men did do some hunting and fishing, primarily to relieve the monotony of eating dried salmon every day. Cod and several other bottom-feeding fish were caught and molluscs were collected at low tide. Winter was the time of year when land animals including elk, deer and black bear, were generally sought.

Since the Nootka did not, as a rule, have to spend a great deal of time in a search for food, they were free to engage in other activities during the winter months. Generally the Wolf Dance was staged at this time of the year. The beginning of this ceremony was heralded by the sound of large trumpet-like wooden instruments that represented the howling of the wolf spirits from the woods behind the village. Men in conven-

tional wolf disguises then captured any novices about, usually children and youths. The captives were hidden for several days behind a large partition in the house in which the ceremony was being performed. During their seclusion they were taught their roles in the forthcoming ritual. As their training was being undertaken, a constant round of feasts and festivities that featured comic dances were engaged in by the villagers. These activities were organized more or less by sex and age. Just before the captives were to be returned, rafts were prepared by lashing planks across the gunwales of pairs of big canoes. At dawn on the appointed day, the wolf pack appeared on a point across the cove with their captives. This was accompanied by blasts on wooden horns. The villagers embarked on the rafts and in canoes and proceeded to the point where they engaged in a mock battle with the wolf pack until the captives were retrieved. The children had now been initiated by the wolf spirits and received certain privileges. Finally the day came when the novices demonstrated the supernatural gifts they had received from the wolf spirits. Each sang a hereditary spirit song, danced, displayed a crest or announced a hereditary name he had received. A potlatch ended the performances. Soon thereafter it would be time to get ready for the arrival of spring with its own demands for survival.



CANADIAN EXPLORER AND SETTLER PERCEPTIONS OF WINTER

Elizabeth Symons and John Marsh
Trent University

Today when man ventures into the wilderness, he can take with him all the comforts of home. Modern technology has made the wilderness experience safer and more enjoyable with the creation of warm, compactable synthetics, aluminum-alloy backpack frames, ultra lightweight tents, and rescue helicopters in case of emergencies. It is winter that is the most challenging season to explore Canada's wilderness areas. Waking in the morning to pull on frozen boots is no laughing matter, as many know. But nonetheless, today's winter experience in the backwoods is no hardship when compared to the early settlers' adventures in Canada. For them it was not a matter of choice, nor a weekend stint to escape the pressures of urban life. It was a way of life. Without electrically heated stoves and central heating, Canada's early explorers had to beat a living out of the vast, cold wilderness. Winter, for some, was the worst season of the year. The severe cold froze the St. Lawrence River, cutting off all connections with the homeland. This meant isolation for up to six months of the year. But, not all the reports sent back to Europe were of desperation and suffering; many learned to use, and appreciate the beauty of, the winter wonderland in which they lived.

Perceptions of Winter - Canada's Explorers

The early white explorers of Canada found the land forbidding, rocky and unfit for human habitation.(Burpee 1944). As early as 922 A.D. when Leif Erikson discovered Helluland and Markland, now known as Newfoundland and Labrador, his reports were that it was a forbidding land of snow and ... flat stones (Burpee 1944). The mountain tops were encrusted with snow and there were no trees or grass (Burpee 1944). Leif

and his men, however did not find the climate too severe, for they had come from Iceland and Greenland, which are both cold and glacier-covered lands.

Along the north shore of the Strait of Belle Isle and the Gulf of St. Lawrence, Jacques Cartier's party discovered nothing but moss and short stunted shrubs (Burpee 1944). They spent a "miserable winter" (Burpee 1944, p. 20) in Newfoundland only to sail home with reports that the newly discovered land was barren with no earth for subsistence (Burpee 1944). In Cartier's later voyages, 1534, the Indians aided the explorer and his men in surviving the winter. The Algonkians used "toboggans and snowshoes in winter (which) gave them greater mobility in a land of rushing streams, lakes and prolonged cold". Likewise the coureurs de bois, the independent French traders, "relied on Indian woodlore to survive in the bush" (Harris & Warkentin 1974, p. 7,9).

In 1600 Pierre Chauvin sailed up the St. Lawrence River to Tadoussac to start a French colony, but, found the winter very severe. "They had so wretched a time during the winter that the next year they were very glad to return to France" (Burpee 1944, p. 33).

Samuel de Champlain wintered on the Quebec shore of the St. Lawrence in 1604. The cold temperatures froze portions of the river, preventing winter travel. Champlain and his men reported that the winter had been "severe and very uncomfortable" (Burpee 1944, p. 36).

Although Henry Hudson did his exploring in more northern latitudes and was perhaps better prepared, he too suffered from the cold and snow of winter in North America. In 1609 Hudson and his men landed on the shore of James Bay and spent a miserable winter combatting cold winds and scurvy (Burpee 1944). Thomas Button suffered the same weather on the western shore of Hudson Bay a year later. More often than not, men died due to lack of food and exposure to the elements during their winter stay in Canada (Burpee 1944).

Because icicles formed on the hair and beards of his men, Thomas James and his men shaved off all exposed hair during their winter hold on an island in James Bay in 1631 (Burpee 1944).

> The winter on the island, in the biting cold of the north ... was one long tale of suffering and almost unbearable discomfort ... The 7th day was so exceedingly cold that our noses, cheeks and hands did freeze as white as paper (James, in Burpee 1944, p. 94).

James further reported that:

> We seemed to live in a heap and a wilderness of snow. In the open air, out of shelter of the woods, the cold was almost unendurable ... it would so freeze the hair on our eylids that we could not see (James, in Burpee 1944, p. 97).

When available, forests afforded shelter from the wind, provided materials for primitive huts, and more importantly, fuel for fires which meant warmth and food.

Further west, David Thompson reported that the weather and climate of southern Manitoba was "far better than that of Hudson's Bay, yet the climate is severe in Winter the thermometer often from thirty to forty degrees below zero". He reported that December was the coldest month when the "long absence of the sun gives full effect to the action of the cold" (Tyrell 1916, p. 122). It was a depressing time; often it was even too cold to venture out-of-doors for the wind blew so strong it appeared to drive the snow about like it was dust. The hardships of winter in Canada, the loneliness and isolation, as perceived by Thompson, are clear in the following passage:

> This dull month of long nights we wish to pass away; the country affords no tallow for candles; nor fish oil for lamps; the light of the fire is what we have to work and read by. Christmas when it comes finds us glad to see it pass; we have nothing to welcome it with (Thompson, in Tyrell 1916, p. 122).

Later, when Thompson was in the foothills of the Rocky Mountains in the early 1800's, winter took on a different light. It reduced the likelihood of Indian attacks, the snow in the mountains being too deep for a war party of Indians to cross. Unfortunately winter also brough stress and strain, as rationing of food and close, cramped quarters had to be endured until spring.

Winter was variously perceived as both a hindrance and an aid to travel. Daniel Harmon, while exploring the north coast of Lake Superior, reported that:

> as it rained and snowed all day, accompanied by a high wind, we have not been able to leave our encampment of the last night (Marsh 1975, p. 15).

In contrast, William Keating's perception of winter was that it afforded better travelling conditions. He reported in 1823 while on the coast of Lake Superior that:

> Few persons have ever attempted to travel by land

> along the lakeshore, and this only in winter, when the swamps, rivers and small lakes are all frozen up (Marsh 1974, p. 18).

The hydrographic surveyor William Bayfield also found that the lake ice facilitated his surveys of the Superior coastline in the years 1823-25.

In the 1850's and 1860's, Palliser travelled across the Canadian prairies surveying and examining the area for settlement. Several times the incapacitating nature of winter was mentioned:

> Not many days after my arrival at Fort Union, winter burst in on the vast region of prairie, bringing all its terrors with it. A snowstorm of three-days' duration, accompanied by a strong north-westerly wind kept us all prisoners in the Fort (Palliser 1969, p. 114).

> The weather now became intensely cold, and a fierce northerly wind, accompanied by a good deal of snow ... (Palliser 1969, p. 120).

From these excerpts of explorers reports of the Canadian winter, it can be seen that the advantages and positive characteristics of Canada were overshadowed. The reports sent home carried with them the idea that Canada was a land of snow and cold weather, unfit for settlement. As a result:

> Europeans came to conceive of Canada as a sullen, forbidding wilderness. Only a handful of Cartier's men survived the horror of winter at Quebec in 1535-36. An account of Martin Frobisher's voyage described his little ships at the mercy of the merciless ice (Harris & Warkentin 1974, p. 313).

Perceptions of Winter - Settlers in Eastern Canada

Considering Canada was described in Europe as a land with "so many acres of snow that no settlers would be attracted" it is amazing that it was settled at all. The first settlers in Acadia, 1660, came to think of winter in Canada as synonymous with isolation. Their settlement could not be reached by sea in the winter months. They were cut-off from the homeland and had to survive alone. The winters were "far more severe than in France", and the peach, pear and walnut trees they had nurtured were killed by winter's cold temperatures (Harris & Warkentin, 1974).

In the latter half of the eighteenth century many more settlers came from England and France to settle in Canada, with hopes of freedom and a productive life. The winter was more severe than they had been accustomed to; but many of them found the cold and snow invigorating

(Smith 1848). Conflicting reports filtered back to Europe:

> In the nineteenth century Charlotte Bronte considered a 'Canadian' temperature to be one that 'froze the very blood', while settler's guides and many a letter back home sought to convince Europeans that Canada was fit for settlement (Harris & Warkentin 1974, p. 314).
>
> Most settlers who wrote about the winter found it invigorating and healthy. Generally, settlers found summer heat and fevers more trying than winter cold, although in Ontario, as throughout the American north-east, the forest rather than the climate was the main environmental obstacle to settlement (Harris & Warkentin 1974, p. 115).

It was doubtless the combination of isolation, severe cold and concern about maintaining a sufficient food supply amid the vast wilderness that proved so daunting to new arrivals.

The seemingly long winter months were idle ones for the farmers, putting a stop to their hard work of clearing the forest for agriculture (Howison 1821). They had to be certain to retain enough feed to keep their animals during the winter, for the snow's depth covered all living things. This was viewed as a hardship of the Canadian winter and it was here that settlers encountered most difficulty during their first winter (Howison 1831). Acquiring feed the first winter was costly, as many of the settlers came to Canada poor.

Inactivity due to deep snow and cold weather was a concern of women as well. The perception of winter equalling idle time was suggested by Miss Anna Brownwell Jameson in 1830. During a visit to Upper Canada she experienced the cold of the winter months, so cold in fact, that as she wrote, she noted "the ink freezes" (Jameson 1965, p. 29). Miss Jameson viewed the winter as a time of limited travel and visiting, and therefore wondered what to do with her time. "There are yet four months of winter and leisure to be disposed of. How? -- I know not" (Jameson 1965, p. 29).

Others considered the effect of winter weather on man's state of mind. Thus, J. Howison wrote that the climate is a consideration when moving to a foreign country, for "a malignant atmosphere exerts an influence over the mind and body which it is impossible to evade" (Howison 1821, p. 228). He however, did not think this to be the case for Canada (Howison 1821). "The climate" in Upper Canada he stated, "is alike healthful and agreeable ... and is by no means unpleasant" (Howison 1821,

p. 228). Winter for Howison was the best season of the year in Canada.

In contrast to this are Miss Susanna Moodie's accounts of her life in Canada during the 1830's.

> The cheerless and uncomfortable aspect of things without never fails to produce a corresponding effect upon the minds of those within, and casts such a damp upon the spirits that it appears to destroy for a time all sense of enjoyment (Moodie 1962, p. 151).

In Miss Moodie's mind the winter brought depression, limited visiting and an altogether miserable time for the backwoods pioneer. She saw nothing pretty in the Canadian woods during the winter months and concluded that "there was very little beauty to be found in the backwoods". In contrast, Catharine Parr Traill observed that "though the Canadian winter has its disadvantages, it also has it charms". In her journal of 1833 she describes awakening on a winter morning:

> The sensation of cold early in the morning was very painful, producing an involuntary shuddering, and an almost convulsive feeling in the chest. Our breaths were congealed on hoar-frost on the sheets and blankets. Everything we touched of metal seemed to freeze our fingers (Traill, 1929, p. 161).

However, she enjoyed her winters in Canada, as is evident in a letter home to England:

> I never enjoyed better health ... there is a degree of spirit and vigour infused into one's blood by the purity of the air that is quite exhilarating. The very snow seems whiter and more beautiful than it does in your damp, vapoury climate ... I was delighted by the effect produced by the frost, the earth, the trees, every stick, dried leaf and stone in my path was glittering with mimic diamonds (Traill 1929, p. 211).

Her appreciation for the beauty of the snow and its ability to mask the ugly and dirty is evident elsewhere in her writing:

> ... objects the most rude and devoid of beauty had suddenly assumed a brilliancy that was dazzling beyond the most vivid fancy to conceive (Traill 1929, p. 211).

Traill's perception of the coming of winter differed drastically from that of the early explorers. All around her, winter was heralded with excitment and anticipation. "It is to all a season of leisure and enjoyment" (Traill 1929, p. 214).

The historian, Guillet, who wrote of the early Ontario settlers, suggested, however, that the winters were unbearable (Guillet 1963).

The difficulties of the pioneer farmer due to the dreadful Canadian winter, began in early November when the frost came. His descriptions of pioneer life are filled with phrases like "the powerful cold", "intense cold", "the dreadful winter night" and "the terrible cold".

Others commented differently. Smith's Canadian Gazetteer observed in 1846 that "much has been written against, and strange notions are prevalent in Britain respecting, the climite of Canada". Most Britons, he believed, perceived Canada as a place covered year around in snow and with temperatures so severe that people ran the risk of "being frozen to death or lost in the snow". Smith proclaimed, "this is a very erroneous idea" and noted that it mattered little how cold the thermometer registered for a person walking or working in the out-of-doors in a Canadian winter "did not feel the cold" (Smith, 1846, p. 234).

Conclusion

These accounts of explorer and settler perceptions of the Canadian winter reveal a wide range of responses. They were undoubtedly coloured by their experience of winter in their homelands and the image of the Canadian winter that had been presented to them. They must also have been influenced by the degree to which they were physically prepared to face the winter in terms of clothes, food and accommodation. Finally, their variability may be accounted for by the fact that some people had to deal with the winter as part of their work while others were better placed to deal with winter as and when it suited them. Regardless of their background, preparedness and involvement with winter most explorers and settlers, perhaps like many Canadians today, appear to have retained an ambivalent and by no means totally negative view of the season that dominates the Canadian year.

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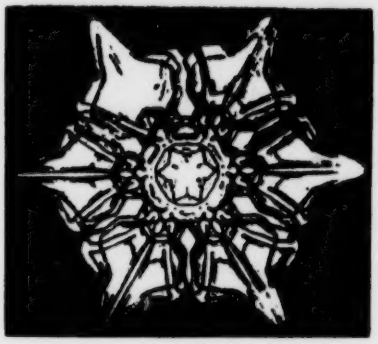


WINTER ACTIVITIES IN ONTARIO'S PARKS

Shan Walshe
Quetico Provincial Park

(Reprinted with permission from Angler and Hunter, February 1981)

I have always been dismayed that Canadians traditionally regard parks as places to visit mainly in July and August and possibly in June and September but never at any other time of year. Drinks in hand, they sit complacently in front of the TV, dreaming of emancipation from the dreary clutches of all, winter, and early spring.

This negative attitude towards outdoor activities during the "off" season results in expensive park facilities remaining idle nine or ten months a year. It also results in higher provincial medical and hospital costs brought on by over indulgence in food and drink (often through boredom), lack of exercise, and the unrelieved stresses of modern life.

Europe, especially Scandinavia, has long recognized the value of year-round outdoor pursuits in promoting physical and mental well-being. For those who must count calories, being active in cold weather burns off far more energy than comparable activity in summer. To be beneficial, exercise and release from 20th Century tensions must be regular. Sitting around all winter and then suddenly participating in strenuous outdoor activities is an excellent way to bring on a heart attack.

Many visitors who come to parks in July and August to "get away from it all" complain that their wilderness experience suffers because the park is too crowded. If only these people had the courage to come in winter, they would have the park all to themselves. The silence, solitude, and beauty of the snow-covered landscape is guaranteed to fill one with awe. And one can take it all in without being bitten by a single fly!

One of the most frequently asked questions in parks is "where are all the wild animals?" In summer, one can travel for days in northern Ontario forests without seeing sign of moose or deer or bear. Not so in winter. In the leafless deciduous forest of aspen and birch, visibility is dramatically increased. No animal can move without leaving evidence in the snow. The park thus becomes a living outdoor observatory for studying movements, track patterns, and population densities of several species of mammals. Sightings are much more frequent. Out of desperation for vital sustenance to ward off the bitter cold in this barren winter world, whiskey jacks (gray jays) become much tamer than normal, even resorting to lightning-swift interceptions of food between plate and mouth.

To ease the shock of going from a modern centrally-heated home into 20 below weather, modern technology has recently invented many aids not available to the hardy Indians, voyageurs, and early settlers of yesteryear.

Just a few of these include thinsolite clothing (lighter in weight, more compact and warmer than down), plastic foam sleeping bags (guarnteed to keep you warm at the coldest temperature), extremely efficient compact gasoline stoves, feather-weight backpaking tents, and, for automobile campers, insulated trailers, truck campers, and mobile homes. With all these make-it-easy gadgets, one is hard put to find an excuse to stay at home!

Timing of Winter Trips

It is most important that a winter camper choose the best time of year and weather conditions for his particular type of trip. Snugly ensconced in an insulated mobile home one can weather almost any situation, but shivering in a stoveless tent at 40 below or wallowing waist-deep in four feet of snow is not only uncomfortable but potentially dangerous.

If you are planning a one week-long snowshoeing or cross-country skiing expedition in total wilderness where overnight shelters and help are unavailable, make the trip in late winter or early spring when temperatures are more moderate and thawing and freezing has created a crust on top of the snow which will prevent you from sinking out of sight.

Don't assume conditions in the park will be similar to those near

your home. Snow depths, etc. can vary surprisingly in a distance of even 50 miles. A quick phone call to park authorities and a local weather station immediately before your anticipated departure, requesting information on average daily minimum and maximum temperatures, snow depth, presence or absence of crust, ice conditions, etc., will help prevent the disappointment and sometimes tragic consequences often experienced by the uninformed.

Skis or Snowshoes?

I have become involved in many arguments concerning the pros and cons of snowshoes and skis for winter wilderness travel. Although an avid snowshoer I have tried to look at the controversy with unbiased mind and herewith humbly present my findings.

Thanks to the testimonials of "Jackrabbit" Johannson, the romantic idea of flying at great speed over hill and dale, and, most important, the desire for respite from the "rat race", the popularity of cross-country skiing has soared in recent years. More people than ever before are at least beginning to seek relief from city tensions in outdoor winter activity. I welcome this boom with open arms, so long as it is kept in perspective, and the limitations as well as advantages of cross-country skiing are recognized and carefully heeded.

Under good conditions - smooth, flat or rolling terrain, a groomed trail, shallow snow conditions, crust over deep snow, wind-packed lake surface, reasonably constant snow temperatures etc., a skier can make a snowshoer look like he's standing still. Gliding effortlessly he can cover great distances in an amazingly short time and use less energy in doing so.

But when conditions are less-than-ideal skis quickly exhibit serious short-comings. Overland travel in typically rugged Precambrian Shield country with its numerous rocky outcrops, precipitous hills, etc., becomes an ordeal.

In three feet of powder snow on an unbroken trail skis sink out of sight. When one encounters bad slush on a lake, skis become useless and must be carried. With considerable temperature changes during the course of a typical spring day, several different types of wax have to be applied and removed. And finally, the most potentially serious drawback of all under severe weather conditions, when skiing, one must wear leather boots.

Countless skiers, compelled to wear cold leather boots because other footwear won't fit their harness, have seriously frozen their toes and feet. Leather boots are simply not warm enough when temperatures plunge to 20 below. Under slush conditions often found on northern lakes, leather boots also become quickly soaked, either by water seeping through the leather or pouring over the top of the low-cut boots.

Snowshoes are far more dependable than skis. They will take you through the deepest snow, over the most rugged landscape, through the densest brush, and even through lake slush (if you knock the slush off quickly with a slush stick before it freezes to the snowshoes). And of vital importance, snowshoe bindings will accept felt-lined boots or moccasins which will keep your feet warm in any weather. In typical wilderness travel in northern Ontario, a hare on cross-country skis will usually come out second best (if he comes out at all!) to a tortoise on snowshoes.

Packsacks vs Toboggans

It is generally conceded that it is much easier to pull a load than to carry it. After two never-to-be-forgotten ordeals with toboggans I'm not so sure. Through hard-won experience I've come to place toboggans in the same category as cross-country skis - great, if conditions are good, but a nightmare if they're not.

On flat open country, on a hard-packed surface or crust, they're excellent, but in rocky, thick bushland in four feet of powder snow they're worse than a stone around your neck. On all future winter treks, I've vowed never to pull a tobaggan again.

Winter Travel Dangers

Winter travel can be far less dangerous than driving on Toronto's Gardner Expressway during rush hour, provided one is aware of its four greatest perils and takes adequate precautions against them. These are frost-bite, hypothermia, dehydration and falling through thin ice. Many books and pamphlets are available on how to avoid falling victim to these threats and how to deal with them if they do occur.

Very briefly, here are a few precautions one should always take.

Do not become exhausted - rest often! Wear adequate clothing for the temperature and wind chill. If you begin to shiver add more clothing at once. Avoid sweating - if too warm, remove some clothing. To make this possible wear several layers of thin clothing rather than one

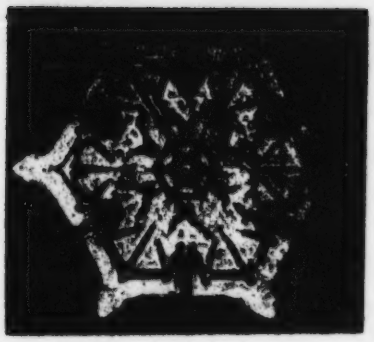
or two heavy garments. Always wear a hat in winter (even if not fashionable).

Eat often (nuts, dried fruit, granola). In subzero temperatures, constantly check extremities (toes, feet, fingers, nose, cheeks) for numbness. Warm any numb spot immediately, If you became wet (falling through ice, walking in slush, wet snow, sweating) don't dry clothes at once. Drink large quantities of fluids, especially if engaging in strenuous activities. The human body requires at least two quarts of fluids daily to prevent dehydration. Avoid rivers, lake narrows, etc. even in the dead of winter.

White Pine

A day of ice-entrapped trees.
Waiting
patient as time
Canadian trees grown accustomed
to pitiless rain and snow
not bewildered by the seasonal perplexity
of rain in January.
White pine needles
ice-coated and thick
are made individual and ancient
suddenly prehistoric
crisp cones drenched to clarity
trunk scales made cycad-like.
Branches bent old with ice,
white pine elders endure winter
accepting
while glazed hardwoods bear crab-apples
candied alive
preserved naturally for spring
buds already formed in anticipation.
And beneath the magnifying lens
of ice-veneer
each twig suddenly clarified against sky
is arched, straining in memory
upward
a silent hallelujah chorus
breathing sun-hymns to rain-grey sky.
Their faith
centuries-taught
exceeds our own.

- Anne Champagne



CROSS COUNTRY SKIING STUDIES: A REVIEW

Mike Brklacich
Centre for Resources Development
University of Guelph
Guelph, Ontario.

Purpose

The purposes of this article are three fold. First, to outline the growth of cross-country skiing during the 1970's. Second, to highlight changes that occurred during this growth period and address such questions as:

Who are these new skiers?

Why are they participating in this activity?

Which site facilities, if any, do skiers prefer?

Are these preferences changing?

Third, to consider what is needed in the 1980's to ensure that high quality cross-country skiing opportunities will be available.

Growth of Cross-Country Skiing

There is no registration of equipment upon purchase and in many instances cross-country skiing occurs at sites where registration is not mandatory. Skiers are not easily identifiable away from site (the invisible skier), therefore, it is difficult to estimate how quickly this activity is gaining, or losing, participants.

Two estimates of the number of skiers in Canada were made in 1976 (Table 1). Parks Canada estimated 1.8 million skiers age 18 and over. Statistics Canada estimated 1.3 million skiers age 14 and over.

TABLE 1

POPULARITY OF CROSS-COUNTRY SKIING IN CANADA, 1976

Area of Residence	No. of Cross-Country Skiers (000's)[1]	Percentage of Cross-Country Skiers	Rate of Participation Per 100 Adults[1]	Percent Growth in Participation Rates 1972-1975[2]
Atlantic Region	37	2.8	2.3	21
Quebec	688	51.5	14.3	610
Ontario	363	27.2	5.7	602
Manitoba	60	4.5	7.9	498
Saskatchewan	47	3.5	6.8	
Alberta	85	6.3	6.3	281
British Columbia	56	4.2	2.9	
Canada	1,336	100.0	7.7	

[1] Statistics Canada 1976

[2] Parks Canada 1976

From these two studies, four conclusions can be made:

(1) At least one in ten Canadian adults is a cross-country skier.

(2) Population of cross-country skiers is not distributed evenly across Canada. The majority of skiers (51%) are in Quebec, with 27% residing in Ontario.

(3) A closer look at skiers shows participation rates highest in Quebec, but Ontario, Manitoba, Saskatchewan and Alberta are quite similar to one another.

(4) An accentuated growth rate is evident in Quebec and Ontario. Hockin (1978, Can. Govt. Office of Tourism) suggests that growth in Quebec and Ontario will level off, but other areas can expect continued growth.

In 1978 Hockin estimated the number of skiers in Canada at 1.8 million. Parks Canada's projection to 1985 was 2.2 million cross-country skiers.

Why has Cross-Country Skiing become so Popular, so Fast?

There have been only a few studies into why cross-country skiing is attracting so many new members. Two recurring themes in these studies are: enjoyment of winter and exercise (Table 2). A study in the Guelph area, during 1978-79, in which 215 at-site interviews were completed typified these findings. A study by Driver (1976) in Colorado also found these two motivations to be most important.

TABLE 2

REASONS FOR CROSS-COUNTRY SKIING

GUELPH AREA STUDY

REASON	IMPORTANCE					TOTALS
	Not	Slightly	Moderately	Very	Extremely	
1. Exercise	0	2	21	47	30	100
2. Enjoy Winter	0	0	11	44	45	100
3. Minimal Skill Required	7	13	27	38	15	100
4. Inexpensive Activity	4	9	28	37	22	100
5. Escapism	12	19	29	24	16	100
6. Family Activity	22	11	14	34	19	100
7. Spend Time With Friends	7	16	28	37	12	100

Other motivations, for those people just beginning in the activity, appear to be the relatively low capital investment and the perception of the activity as not too difficult. Another reason that seems to becoming increasingly important is the social aspects of cross-country skiing. Hockin concluded that in the future cross-country skiing will become even more popular as a family activity since the activity can include most members of the family, sites are often close to home, and the activity is relatively inexpensive. He adds that many of the new skiers will be between the ages of 30 and 50 years.

Socio-Economic Profiles of Cross-Country Skiers

Four studies contribute information on this aspect:

(i) Ontario Recreation Survey data, 1973-74. Province wide survey.

(ii) Statistics Canada (Culture Statistics: Recreation Activities) 1976.

(iii) Peterborough Area Study, 1975-76, 2 sites, 126 on-site interviews

(iv) Guelph Area Study 1978-79, 2 sites, 215 on-site interviews.

It should be noted that the site studies, while representative of skiers at the site are perhaps not representative of skiers in general.

(a) Age Profile

Unfortunately, the differential age groupings used make comparison of studies difficult.

TABLE 3

AGE PROFILES OF CROSS-COUNTRY SKIERS

AGE GROUP	CANADA[1]		PETERBOROUGH AREA STUDY[2]
(YRS)	% of Pop.	% of Skiers	% of Skiers
14-19	16	27	(29
20-24	12	17	(
25-34	21	24	26
35-44	15	17	19
45-54	14	11	21
55+	22	4	5
Totals	100	100	100

AGE GROUP	ONTARIO		GUELPH AREA STUDY[4]
(YRS)	% of Pop.	% of Skiers[3]	% of Skiers
12-19	24	32.0	3.3
20-34	28	33.4	70.7
35-49	22	24.2	20.0
50-64	16	9.3	5.6
65+	10	1.1	0.5
Totals	100	100	100

1 - 1976 Data.

2 - Peterborough Area Study (2 sites): 126 interviews completed on-site 1975-76.

3 - O.R.S. data 1973-74.

4 - Guelph Area Study (2 sites): 215 interviews completed on-site during 1978-79.

The general findings are:

(1) that cross-country skiers tend to be younger than the population in general,

(2) the activity is not confined to a narrow age range like other recreation activities. There is not a marked decrease in participation in the over-50 age groupings.

(b) Education Profile (Table 4)

TABLE 4

EDUCATIONAL PROFILES OF CROSS-COUNTRY SKIERS

EDUCATION	CANADA		ONTARIO	
	% of Pop.	% of Skiers	% of Pop.	% of Skiers
Less than Gr. 8	25	8	25.3	15.7
Grades 9-13	49	47	45.2	47.8
Some Post Sec.	19[1]	28	22.5[2]	12.8[2]
University Degree	7	17	7.0	23.7
Total	100	100	100	100

EDUCATION	PETERBOROUGH AREA STUDY	GUELPH AREA STUDY
	% of Skiers	% of Skiers
Secondary School or Less	30	24
Some Post Secondary	25	21
Post Secondary Grad.	45	54
Non-response	0	1
Total	100	100

1 - Includes individuals with a community college background.

2 - Does not include individuals with a community college background.

Again, difference groupings limit comparisons amongst the data sources. The main findings are: (1) national and provincial studies indicate that skiers tend to attain higher levels of education than the population in general; (2) over the time period considered, this trend does not appear to be changing.

c) Occupation Profile (Table 5)

TABLE 5: **OCCUPATIONAL PROFILES OF CROSS-COUNTRY SKIERS**

OCCUPATION	CANADA		ONTARIO[1]	
	% of Pop.	% of Skiers	% of Pop.	% of Skiers
Managerial, tech., social and cultural	15	29	22	51
Clerical	14	16	7	4
Sales	8	9	8	3
Service	11	9	9	5
Primary Occupation	5	3	7	5
Blue Collar-Other	22	15	42	29
Not Working/ Unknown	25	18	5	3
Totals	100	100	100	100

[1] Heads of household only

OCCUPATION	PETERBOROUGH AREA STUDY	GUELPH AREA STUDY
	% of Skiers	% of Skiers
Professional	25	18
Tech-Trade		19
Management	9	8
Clerical-Sales	26	17
Un-semiskilled	5	8
Student	14	18
Housewife/Homemaker	16	5
Other	5	7
Totals	100	100

1) from the Canadian and Ontario studies, it is apparent that skiers tend to be employed in white-collar occupations more frequently than the population in general. 2) the Guelph Area Study however, shows a noticeable increase in the Technical Trade category, perhaps indicating that the population of cross country skiers is no longer confined to a few sectors of the population.

d) Other Socio-Economic Characteristics:

The marital status and sex characteristics of the skiing and the general population differ only minimally.

In summary; while cross country skiers are not representative of the population in general, they are not confined to a well-defined sector either. Thus, there is probably no "average" cross-country skier, but rather a diverse group.

Activity Profile of Cross-Country Skiers

a) Skiing Experience (Table 6)

TABLE 6: **SKIING EXPERIENCE**

NUMBER OF SEASONS	PETERBOROUGH AREA STUDY	GUELPH AREA STUDY
	% of Skiers	% of Skiers
One	37	20
Two	24	27
Three	17	26
Four	12	11
Five	3	7
Six or more	7	8
Total	100	100

1) The recent boom in cross-country skiing is evident in both studies. 75% of skiers had skied 3 seasons or less.
2) However, there were relatively fewer skiers in the 1st year category and relatively more in the 3rd year category indicating that the activity is maturing.

b) Frequency of Skiing (Table 7)

TABLE 7: **FREQUENCY OF SKIING**

FREQUENCY	PETERBOROUGH AREA STUDY	GUELPH AREA STUDY
	% of Skiers	% of Skiers
3-6 Times per Wk	7	7
1-2 Times per Wk	65	48
1-2 Times per 2 Wk	17	29
Less Frequently	7	12
Non-response	4	4
Total	100	100

1) In these two studies the majority of skiers are participating regularly throughout the season.

c) Time Spent Skiing (Table 8)

TABLE 8: **TIME SPENT SKIING**

TIME (HRS)	PETERBOROUGH AREA STUDY[1] % of Skiers	GUELPH AREA STUDY[2] % of Skiers
Less than 2 hrs.	34	11
2-2.9	41	44
3.0-3.9	15	28
4.0-4.9	6	10
5.0+	4	4
Non-response	0	3
Total	100	100

1 Time that outing

2 Typical outing

1) Over half of the skiers interviewed ski for 3 hours or less. This has implications for trail design. Either several short trails to accommodate those wishing to ski longer distances as well as those skiers pereferring short routes or longer trails with cut-off routes might prove best.

Long distance skiing will probably become more popular, resulting in a need for tour leaders and remote shelters; also trails through sheltered (wooded) areas to lessen wind chill.

Site Preferences

1. Multiple Use: The preference for single use is well-documented. In particular attention has been given to snowmobilers and cross-country skiers sharing a site. For example the Wong (1978) study in Calgary and Edmonton, of cross-country skiers and snowmobilers showed: a) 84% of skiers dislike snowmobile noise and odours.
b) 44% disliked snomobiles as they ruined the track.
c) 20% disliked snowmobiles because of dangers that the snowmobiles posed for skiers.
There is also some concern about other uses (such as snowshoers and walkers) as they disrupt the ski track also. In the Guelph study, a few skiers commented on other site users with unleashed dogs as a problem.

2. Hiking Areas/Cross-Country Skiing Areas: Skiing on hiking trails is problematic due to the abrupt changes in direction and steep hills; which pose little problem to the hiker.

3. Trail Markings/Maps:
   a) Most skiers in the Peterborough Area Study wanted well-marked trails and maps. Other studies concur.
   b) As long distance skiing becomes more popular, distance markers and a standardizing of trail markers will lessen the possibility of skiers becoming lost.
   c) At heavily used sites, skiers have indicated that one way trail systems would be appreciated.
   d) More information on trails, regarding difficulty, length and vantage points has been suggested.

4. Interpretive Facilities: Little information has been collected on this aspect. However, in the Peterborough Study, in response to the question: "Would an interpretive guidebook be helpful?", 46% replied "yes". And in response to the question: "Would you like interpretative signs along the trail?", 40% replied "yes". Some skiers stated that such facilities would best be at trail heads as you get chilled quickly if you stop for any length of time en route.

5. Other Facilities: Washrooms, food services, chalets, etc. There is some evidence that these facilities are now preferred by more skiers. This may reflect the growth of the activity as a family/social activity.

Concluding Comments

1. Skiers are a divers group of recreationists and one needs, therfore, to provide opportunity for many types of skiers.

2. A note of caution is necessary regarding the inherent limitation of on-site surveys. On-site studies provide us with information on those who are likely to use the site, but they are not capable of addressing the question of why recreationists choose not to participate at that site.

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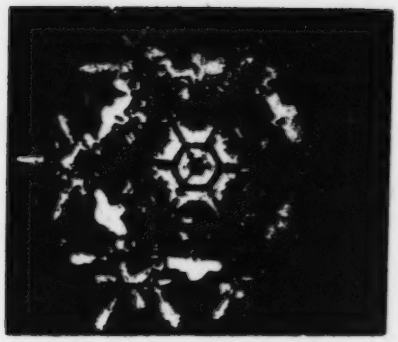
SKI OWNERSHIP BY PROVINCE (1,000's)

Province	Households	Households with Skis	%	Households with Downhill Skis	%	Households with Cross Country Skis	%
Canada	7,320	1,863	25.54	1,037	14.16	1,239	16.92
Newfoundland	137	9	6.56	4	2.91	7	5.1
Prince Edward Island	34	5	14.7	0	0.0	4	11.76
Nova Scotia	240	23	9.58	13	5.4	14	5.8
New Brunswick	191	32	16.75	16	8.37	22	11.5
Quebec	1,944	738	37.96	308	15.8	612	31.48
Ontario	2,741	618	22.54	386	14.08	377	13.75
Manitoba	324	52	16.04	23	7.09	39	12.03
Saskatchewan	295	50	16.94	21	7.11	37	12.5
Alberta	593	163	27.48	118	19.89	80	13.49
British Columbia	822	173	21.04	147	17.88	48	5.83

Source: Statistics Canada, 1978, Household Facilities and Equipment, 1978, Ottawa, p. 33



SNOW AND LAKE ICE WORKSHOP

Nigel Roulet, K. Outerbridge,
M. Lawson, H. McCormack,
S. Raymond, A.T. Roberts,
B. Russell, N. Strickland,
M. Whitehead.

Department of Geography
Trent University

Snow and lake ice play a far more significant role in our daily lives than most Canadians realize. Since the introduction of winter long-distance travel, man has viewed snow and ice negatively.

As winter recreation and outdoor activities become more acceptable and more accessible, our exposure to snow and lake ice has greatly increased. As the exposure to snow and ice increases, so does the desire to understand some simple concepts of these two substances.

While there are many aspects to snow and lake ice, two simple approaches can be used to demonstrate their basics and to gain knowledge about their structure. The snow and ice workshop concentrated on these two approaches.

The snowpit demonstration, illustrated the basic physical properties of a snowpack. Snow layering, temperature, density, hardness and crystal size and structure are all easily measured using a simple snowkit. These snowkits are described by Adams and Barr in, "Measurements in Physical Geography", Trent University, Department of Geography, Occasional Paper No. 3 (Figure 1). While these kits were made at a scientific workshop, many of the parts can be easily substituted. For example, density can be measured using old cans of known volume, and kitchen scales, while snow crystals can be examined through a magnifying glass on graduated paper. A mercury thermomenter can be used to measure snow temperature and the finger and snowball tests can be used to measure hardness and moisture content, respectively.

The lake ice demonstration illustrated the various layers that comprise the lake ice cover; that of snow, white ice and black ice. These

1. Small straight blade shovel. This can be manufactured from aluminum or, preferably, stainless steel.

2. Folding rule in both centimeters and inches.

3. Data sheets for field record.

4. Bimetallic thermometers. These should ideally be dial reading, calibrated in degrees centigrade with the range of scale being from freezing point downwards. The total range of scale will depend upon the minimum air temperature that can be expected at the surface.

5. 3 snow tubes. These can be constructed of aluminum or preferably stainless steel. Three tubes of 500 cc, 250 cc and 100 cc capacity are suggested in order that layers of thickness from approximately 1 1/2" upwards can be sampled.

6. Putty knife or builder's trowel.

7. Weigh scale and pan. Diet scales are readily available on the market and should have a range of 0 - 1000 grams with a 1 gram interval. Balance type scales are possibly more accurate but are more difficult to operate under field conditions. If the snow samples are put into plastic bags they could be weighed in the laboratory using existing scales.

8. Hardness gauges and discs. The hardness gauges are probably the least accurate pieces of equipment of the snow kit and the hardest to construct. It is suggested that the gauges themselves should be purchased (Testlab) but if costs are a consideration the flat aluminum discs can be machined to fit the threading ends of the gauges. The discs should have surface areas of 100 cm^2, 10 cm^2 and 1 cm^2.

To determine which gauge or disc to use it is best to start with the weakest gauge and work upwards through the combinations listed below:

Disc	Low Range Gauge Value of 1 Division on Scale	High Range Gauge Value of 1 Division on Scale	Range
Large Disc (100cm^2)	1 g/cm^2	Not used	0-10 g/cm^2
Medium Disc (10cm^2)	10 g/cm^2		0-100 g/cm^2
" " "		100 g/cm^2	0-1000 g/cm^2
Small Disc	Not used	1000 g/cm^2	0-10,000 g/cm^2
End of Gauge	Not used	5000 g/cm^2	0-50,000 g/cm^2

If hardness gauges are not used a subjective test can be performed as follows:

Approx. Gauge Values		
0-500 g/cm^2	Soft	The snow can be penetrated by the tips of four fingers of a leather gloved hand.
500-2500 g/cm^2	Medium Hard	Penetrated by one finger of a leather gloved hand.
2500-5500 g/cm^2	Hard	Penetrated by a pencil.
> 5500 g/cm^2	Very Hard	Penetrated by a knife.

An alternative to the above techniques is to perform vertical tests of the bearing strength of the snow using ramsonde equipment.

9. Graduated disc or graduated plate. The graduated disc can be machined from aluminum or stainless steel with 1 mm concentric circles engraved on the surface. In France a light metal plate approximately 10 x 15 cm with 1 mm, 2 mm and 3 mm grids is used.

10. Hand lens. A lens of 10x magnification is suggested.

11. Carrying Case (Not Shown)

This can be constructed of wood with suitable partitions to hold all the equipment securely. The Trent case measures 18"x12"x12" deep with the lid hinging 3" from the top. If the equipment is to be carried large distances by hand a narrower case would be more suitable. A sled is suggested as the ideal method of transporting the case.

Figure 1a: Legend for Snow Kit (following page)
(From Adams and Barr, 1974)

Figure 16: Trent University Snow Kit (from Adams and Barr, 1974).

are easily observed and measured using a spoon core drill (available at any sports store that carries ice fishing equipment) and a wooden meter stick. It is suggested that spiral augers not be used as they destory the white ice/black ice interface.

During the workshop a great deal of interest was expressed concerning the impact of snow and lake ice on the ecosystem. The following is a very brief review of some of these impacts.

The physical properties of snow were examined to shed light on the development of the snowpack. Snow, once it is on the ground, metamorphizes by a process somewhat analagous to geological metamorphosis, though over a much shorter time span. The process produces a wide range of conditions in the snowpack. Of particular importance is the low density, large crystal layer at the bottom of the pack called depth hoar.

The ecological significance of depth hoar is evident in the study of small rodents. In these layers they develop tunnels in which they live over winter. Other animals have developed adaptive systems to live in snow environments. The caribou and moose have long legs to keep the main portion of their bodies out of the snow, and snowshoe rabbits have very large feet to support their body weight on the snow surface. Vegetation is aided greatly by the insulative properties of the snowcover, though it is also damaged by heavy snowloads.

Certain hazards, involving man, are produced by the presence of snow. The most obvious is that of the snow avalanche and its negative effects on transportation. On the other hand, snow is beneficial in transportation, in the building of roads and runways in northern areas. A seldom thought-of effect is the economic factor of snow removal.

Here in Canada, snow is of great significance to the hydrologic regime. The major source of water in the spring comes from the melting of snow, and if various ground conditions exist, serious flooding can occur. In recent years, the chemical aspects (nutrients, heavy metals) of snow have been of interest since it presents the largest single input of the annual chemical budget in most areas. The area of acidification shock of spring melt water has become a major concern in the field of ecology.

While snow is of great significance to the terrestrial ecosystem, it plays a major role in the freshwater ecosystem as well. Lake ice cover initially forms when lake water freezes, producing a clear ice

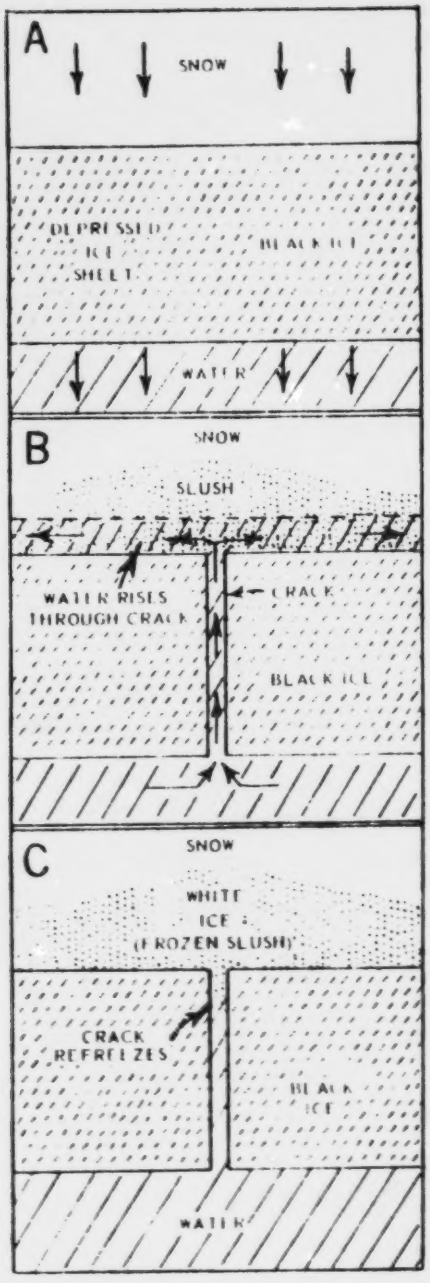


Figure 2: The three stages in the formation of white ice.
A. Ice sheet depressed by weight of snow cover.
B. Ice sheet cracks and water infiltrates the snow cover to form a layer of slush.
C. Slush layer freezes to form white ice.
(from J.B. Shaw, 1967)

called black ice. When snow falls on this ice, it becomes depressed below the natural surface of the lake. When cracking occurs, due to temperature fluctuations, water rises into the lower layers of the snow-cover and freezes to produce snow ice, or white ice. The process occurs throughout the winter and the result is a complex three component lake cover (Figure 2).

The lake cover is of great ecological significance to the lake. It can essentially be seen as a barrier between the atmosphere and the lake water. This affects many biological activities, such as the amount of light, the amount of oxygen-recharge, and the amount of chemicals that enter the lake during the winter. At the end of the ice season, a melt, all these stored chemicals enter the lake in a very short time span, again producing a type of shock front.

Lake ice cover in northern regions is of particular importance with respect to transportation. In the Baie James region, lake covers have provided the base for major winter highways and airports.

One area not discussed but significant to humans is the role of snow and lake ice in recreation. Whole industries are built around activities such as skiing (both downhill and cross-country), snowmobiling, ice skating and ice sailing.

While this review is in no way exhaustive, it is hoped that it has provided a greater understanding of the role of snow and ice in the Canadian environment. The following is a slected bibliography on the various topics discussed above. Unfortunately, a large number of these articles are in academic journals which are available only at major public libraries, community colleges and universities. If you do not have access to any of these, write to your nearest university library and they will probably be able to supply the article at the cost of photocopying.

Also various government ministries, both federal and provincial can be good sources of information, particularly the Ontario Ministry of Environment, Environment Canada, Inland Waters Directorate and the Ontario Ministry of Transportation and Communications.

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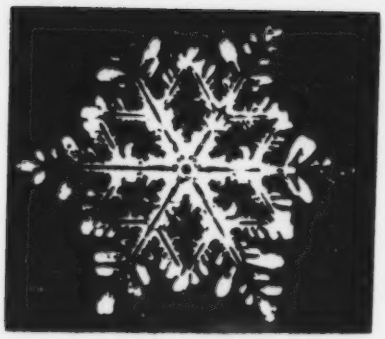

SNOW IN OUTDOOR EDUCATION

W. P. Adams
Department of Geography
Trent University

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Those of us in Education are little better in our attitudes to winter than the general public, who see it as a time for hibernation or migration. In schools and colleges, winter is used as an excuse for limiting field work. Field trips are packed either into a short period at the beginning of the school year, when students have hardly begun their course work, or into a few weeks at the end of year when the academic pressure is off and when the long vacation looms large. It is extremely difficult to integrate fieldtrips scheduled in this way into a course and, as a result, extra mural work either becomes simply an end in itself or degenerates into mere sight-seeing. In addition, long "trips" are favoured at the expense of shorter, more purposeful, field projects. If the landscape is the "laboratory" of the outdoor educator, as we often claim, our approach within the landscape should be laboratory-strict. Most often this implies short forays to seek facts and/or to test hypotheses in the landscape rather than long hours about the countryside. Obviously this approach to field work has great inherent problems within the school timetable but there are definite possibilities, even in our winter.

Although it is unfortunate in some ways that the winter season is so grossly over-represented in our school year, surely we should seize the opportunity for studying the phenomena and effects of the season which is usually considered as being the most characteristic of Canada? Many would say that harsh and extreme aspects of environment are more interesting than the rather bland "good" aspects.

Consider, for example, snow. How clearly it links the cultural and physical aspects of our lives and of our environment.[1] How clearly it illustrates the resource-hazard theme in human ecology.[2]

Snow is a form of precipitation, a form of ice and as such is a form of water. Falling snow is, among other things and according to your point of view, the principal form of the solid phase of atmospheric moisture, a visibility problem, a hazard to travel and to trees and an important factor in the physiological effects of cold. On the ground, again among other things, it is a very efficient and important temporary reservoir for water, an important control of the regimes of our streams, a hazard and expense to man, a boon to some animals and plants but a hazard to others, an insulator of the ground and houses, the resource base of multi-million dollar industries, a building material and the form of ice from which glacier ice is derived.

A measure of the diversity of interests in snow can be obtained by considering some of the common aspects of snow which are treated by, for example, engineers--they include, avalanche control, hydrological implications of many sorts, thermal implications of snow, control of falling snow, snow loading on roofs, over-snow travel, visibility problems of snow, snow removal etc. etc. A similar variety of interests could be cited for physicists and biologists and in my own subject, Geography, papers on snow range from topics within Physical Geography (including snow as an atmospheric phenomenon, in connection with glaciers, as a contributor to stream flow, etc.) through Urban and Agricultural studies to work on the perception of snow as a hazard in the urban environment.

An example of the immediate "relevance" of studies of snow is the study of the role of snow in atmospheric pollution--a highly topical area of interest today. The increasing recognition of the critical role of snowcover in management of our water resources is another example of the same thing and, of course, the incredible rise of snow-oriented winter recreation with its widely felt negative and positive feedback effects is another.

This range of interests in snow is an indication of the great significance of this phenomenon in our environment and is an indication of where these aspects of snow are treated in the literature (see[3], for an annotated bibliography).

These points about snow as a significant part of our physical and cultural environment--particularly as a significant part of the environment of the school year which is winter--make it in itself a worthy focus of study from the point of view of many of the standard school and college programmes--geography, biology, physics, economics, history, social studies, physical education, etc. But, in addition and perhaps more important to all teachers--snow is a teaching aid which is literally delivered each winter to our doorsteps! This is true in the city or the country. It is a material which can be touched, seen and at certain times even smelled and heard while in the air or on the ground. It is a material which reacts relatively quickly and visibly to changes in its environment which changes are all within the normal span of fluctuations in our environment. Hence it provides an extremely useful medium for observation, demonstration and experimentation. Its own importance as a part of the environment heightens its value in this regard.

Let us first consider the implications of this point--the value of snow as a teaching material--with regard to snow <u>while it is in the air</u> --that is snow as precipitation.

As the school year in Canada encompasses the "<u>snow year</u>" here is one element of weather and climate for which effectively complete records can be gathered by the class of one academic year. As most precipitation at this latitude, even in the warmer months, originates as ice crystals, it is not unreasonable to stress this particular form over others.

It so happens that the shape, size and condition of snowflakes and snow crystals are easy to record either by catching them as they fall and noting their character before they melt or by preserving replicas of sample catches.[4,5,6] Such observations can be used to deduce important information about humidity, temperature and other conditions in the atmosphere at the levels where the precipitation originated and through which it fell. This is a convenient and meaningful way of developing skills of observation, recording, display and analysis of data which are the basis of all good work in the field and in the laboratory.

The problem of extrapolation from point measurements to areal values is one which is of great importance in all field sciences. How representative of the general regional population is a measure such as a mean or a median of a sample of field mice caught at one location? In the case of snow, the limitations of extrapolating from measurements

made over a few square inches of gauge to hundred or thousands of square miles of landscape are blatantly obvious when you compare the 'catch' of the gauge with the distribution of the 'same' snow over the surrounding landscape. The variability of a snowcover after a storm is clearly visible, the scatter of values can be measured. The variations of rainfall, temperature, soil depth or of population density or of mice over an area are less easily grasped.

Once on the ground, snow forms an important and remarkably accessible component of the environment. Its properties (depth, density, porosity, permeability, grain size and shape, texture, strengths, etc.) are a focus of interest for many disciplines. Most of these properties are easily examined at relatively normal temperatures.[6,7,8]

Snowcover is a phenomenon of our environment which clearly demonstrates the interrelatedness of elements within the earth-atmosphere system. The properties of the cover are the result of the interaction of processes in the atmosphere, at the earth/atmosphere interface and beneath the earth surface and variations in the snowcover result from spatial and temporal variations in those processes.

A valuable aspect of snowcover is that it provides a tangible, visible, example of a complex areal distribution.[9] An end result of the spatial variations of the interactions mentioned above is visible and measurable in snowcover. An added advantage is the fact that developments within a snowcover occur over usefully short periods of time, so that patterns change and hypotheses concerning the original distribution can, to an extent, be tested. A wide range of mapping and survey work can be meaningfully undertaken in connection with the snowcover of even a small area. A snow fence or fences in an open area form simple and inexpensive items of outdoor laboratory equipment. Similarly, the implications of a spatial sampling procedure are more easily demonstrated in the case of snowcover than in the case of a less tangible variable. The distribution which the sample represents can be seen.

The depth, for example, of a snowcover (other properties could also be used to illustrate the point) clearly varies as a result of atmospheric conditions during and after the original snowfall, as a result of surface factors (vegetation, slope, aspect, buildings, etc.), subsurface effects (e.g., thermal conditions) and as a result of processes within the cover. The exact combinations of these and other factors affecting

the areal variation of snow depth merit study, can be studied relatively easily, and experience gained from such work has relevance in studying other, less tangible, distributions.

To cite a case, the depth of snowcover in a small area might be measured using standard snow-survey techniques; regular sampling within a grid; a random sampling approach or a stratified random sampling approach or by all of these methods. The results can then be presented in a variety of ways including an isopleth map, various types of mean and distributions around those means, and trends examined within the distribution through cross sections or more sophisticated techniques. Basic concepts and implications of sampling, areal means, point measurement of areal variations, plane survey, contouring etc. can be forcefully conveyed in this way. Once obtained, tabulated and displayed, the data provide a basis for hypotheses on the controls of depth variation (e.g., vegetation-snow depth relationships). Further testing of hypotheses is quite simple and, in addition, experimentation is possible without elaborate facilities, for example by the use of snow fences.

To re-emphasize a point made earlier, the significance of snow in the environment makes exercises of this kind more meaningful than similar work undertaken with less interesting material. For example, an understanding of contours can be conveyed most effectively by means of papier-mâché models but, I would argue, the use of a snow drift as a vehicle for this purpose results in a more enriching experience. The work described could be undertaken in either a rural or an urban environment.

Snow can also be used in teaching basic geology and geomorphology at a time of year when the geologic landscape is buried. Snowcover is a sedimentary rock and some of the metamorphic processes in snow form a useful analogue of rock metamorphism. Ice is a mineral and the properties of snow crystals can be used to convey the properties of rock-forming crystals. Variations in grain size, compaction, etc. of snow are often more clearly visible than they are in rocks. As the metamorphism of snow is rather rapid, the significance of changes resulting from the processes involved is more easily grasped. There are clear ripple effects and dune formations in snow, as there are in sand. The process of deflation and its effects can be observed in a snowcover as well as in dry sandy areas.

Although glacial landforms are buried in winter, the development of snowcover during a winter does shed light on the development of glaciers and the behaviour of snow on a slope and of streams within a spring snowcover do have value as analogies for the behaviour of glaciers and their associated run-off. Why is it we insist on teaching about glaciers from the heaps of rubbish which they have left behind when we experience the initial stages of glacier formation each winter? We do not try to make our students deduce the nature of rivers simply from ripple marks on former stream beds. Why consider the landforms produced by a glacier before considering the glacier itself?

Consider also the profile of a snowcover as an analogue model for a soil profile. Implications of grain size and shape, texture, compactness, moisture content, layering etc. etc. are easily demonstrated. Many of the measurements and observations are more easily made in snow. The behaviour of snow in a slope is comparable to that of soil or other material on a slope but its rates of movement may be usefully fast.

One of the beauties of the analogue approach in both teaching and research is that analogies, by definition, are not the real thing. Thus when one likens the flow of water in a stream network to the flow of traffic in a road network, the study of both traffic and streams benefits from both the similarities observed and the dissimilarities. In the case of snow and soil, for example, the mode of profile development is clearly different (the roles of water and air in the two media are, for example, very different). Another difference between snow and soil is that the density of snow increases when it is moved while that of soil decreases. This is a fundamental difference which has great implications in determining the different effects of various types of snow avalanche and of various types of earth avalanches. It also explains the difficulties encountered in trying to refill a hole dug in snow which contrasts so markedly with the difficulty that road menders seem to have in disposing of material dug from holes. Such differences often bring out a point better than similarities.

I am not attempting to say that we should go to great lengths to keep students from the real thing. Rather, the study of snow, undertaken at a time when, for example, soil is being treated in a course, makes the end-of-year visit to a soil profile more meaningful.

Biology is a subject which seems to have suffered particularly from a lack of meaningful fieldwork during the school year. Studies of relationships between snow, vegetation, animals and soil are, in fact, very easily undertaken and some education in snow is essential for a biologist working in our type of climate.[10,11] Possibilities range from consideration of the micro climates produced for plants and animals by snowcover, to the role of snow in the life cycle of small and large animals and to the study of the habits of animals and birds from tracks and droppings in the snow.

CONCLUSION

Many important trends can be discerned in the recent developments of Education in general. These include trends towards quantification, rigorous experimentation (in the fullest sense of the term), towards a more purposeful education and a general increase in increasing physical activity in schools, a growth in outdoor education and a definite move towards interdisciplinary and multi-disciplinary approaches to topics of general interest. Greater use of snow would not be disadvantageous in all of these areas.

I, personally, look forward to the day when every educational organization in Canada has a simple outdoor field station devoted to snow, in the city or in the country. It is important that the average citizen has some understanding of this phenomenon which plays such an important part in his life.

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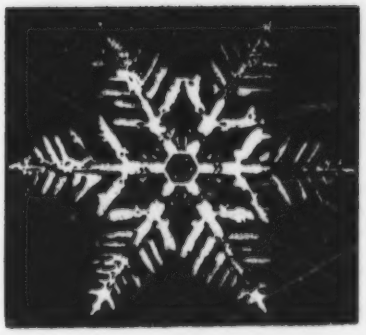


WINTER WILDLIFE

Ron Tozer
Interpretive Services Supervisor
Algonquin Park District

This talk deals with some winter wildlife interpretive opportunities in Algonquin Park. Although many of the topics covered are very specific to this large, natural environment park, it may be possible to translate them into interpretive opportunities in other areas. Due to time constraints, I will only touch briefly on the ecological factors and interpretive techniques involved.

Our first, and often only, contact points for winter visitors to Algonquin Park are the East and West Gates. These are not staffed in winter, but brochures at the gates can alert visitors to wildlife opportunities. For many highway travellers, their Algonquin winter experience will be limited to viewing and photographing the spectacular scenery.

However, all visitors see many moose tracks, and frequently the animals themselves are along the road margin. Interpretation can deal with our moose population boom now that they are free from moose disease carried by deer (which have declined drastically).

The highway provides the best opportunities for wildlife viewing in the Park, since the visitor can cover more ground by car than on foot. High interest species such as wolves may use the highway as an easier travel route too. When a kill occurs on a lake adjacent to the road, there are good chances to see ravens, eagles, wolves and other mammals.

Salt and sand put on the highway in winter attract birds.

Spectacular winter finches are easily observed, creating interest and interpretive opportunities. In addition to basic identification, information on food crops attracting particular species and winter movements is well received by visitors.

Another user group in winter consists of visitors to ski trails. Interpretive opportunities increase since these users have left their cars to follow trails away from the highway. The solitude, moods, and simplicity of the winter woods can be exploited. The ubiquitous tracks of varying hare can be identified, with interpretive stories on winter food, camouflage, predators, etc. Another obvious subject is woodpecker work on trees, featuring feeding techniques, dormant insects, tree decay, ---. Bird feeders can be erected on ski trails at suitable rest points (done effectively in Arrowhead Park). However, users of ski trails are primarily interested in skiing, and may not be easily reached with interpretive messages.

Snowshoe trails through more difficult terrain, and laid out to maximize wildlife opportunities have more interpretive potential. The slower pace allows closer observation of wildlife signs. Typical subjects are wolf ecology, grouse behaviour, deer yards, porcupine dens, and rare mammal tracks.

Winter campers constitute another user group with potential for winter wildlife interpretation. Campers spend considerable time in one area, and so can come to realize that the seemingly sterile winter woods does have life in winter (e.g., squirrel and gray jays visit the camp for handouts). On a cold clear night, campers may hear frost cracks in trees, the hooting of Barred Owls, or the howling of wolves. An Algonquin night in winter can be a unique wilderness experience.

If funds allow the operation of an interpretive building in winter, it can function as a warm centre for talks, publications, and A-V shows on winter wildlife. Groups and individuals can head out from this centre to contact winter wildlife first hand.

A feeder operated at the Algonquin Park Museum has

presented excellent interpretive opportunities concerning birds. By placing the feeder low to the ground opposite a large window, spectacular viewing of wolves, marten, fisher, fox and flying squirrel has been possible also. But there are severe limits on the number of people we can expose to such opportunities.

In winter, the Park Museum staff is able to provide birders with detailed directions for finding such northern specialties as Spruce Grouse, Gray Jay, Raven, Boreal Chickadee, Crossbills and others. A volunteer project involving up to 50 selected expert observers each year conducts a Christmas Bird Count. This provides wildlife viewing opportunities, and yields a valuable survey to us.

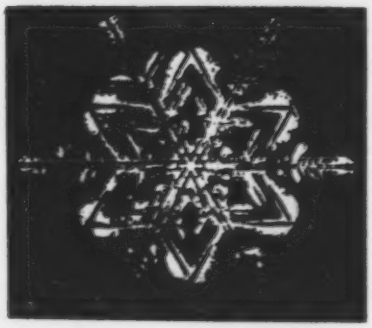
The "late winter - early spring" period is excellent for winter wildlife, when a good crust often makes travel easy and enjoyable. Special features include active beavers, "snorts" to attract otters, and gray jay nesting time. A final winter subject can be maple syrup demonstrations, with interpretive messages concerning the quickening pace of life.

This talk can only scratch the surface of winter wildlife interpretation. Naturalists should view this season as one with great potential for visitor equipment and learning.

Winter

Scattered cedars
on the blank snow
spell a land
that lies breathing
singly speaking green
in a voice
caught
midsyllable.

- Anne Champagne



WINTER BIRD WALK AT STONY LAKE

Chris Harris
Trent University

Guided by Dr. Fred Helleiner a group of about twenty observers left Irwin Lodge at 7:00 a.m. for a brisk hour-long bird hike. The hike was led through a variety of habitats east of the lodge including coniferous woods, mixed woods, frozen lake and edges of fields. In the early morning light, an attempt was made to listen for owls already engaged in the initial stages of courtship. Unfortunately none were heard.

The first birds observed by the group were the common Black-capped Chickadees. Not noted for their shyness, these birds responded to the 'pishing' noises made by Dr. Helleiner and hopped about on the branches of the evergreen trees directly above us. 'Pishing" is a technique used by birdwatchers to attract birds close to them. In the winter, such birds as Chickadees, Nuthatches, Blue Jays and other species respond to these sounds. The birds seem attracted to, or curious about, the sound. There have been occasions when Chickadees have landed on the head of the person who is making the noise.

Eventually the group ended up watching a hive of activity at a local bird feeder. Here three more species of birds were seen: White-breasted Nuthatch, Evening Grosbeak and Blue Jay. This illustrated quite well the advantage of a bird feeder to winter bird study as the feeder attracted birds from the surrounding woods like a magnet. Dr. Helleiner also pointed out the calls of the White-breasted Nuthatch and the Evening Grosbeak.

On the final leg of the hike, a Ruffed Grouse was scared from its roosting spot down in the snow. The five species of birds seen on this short hike proved to all there that the winter can be an interesting

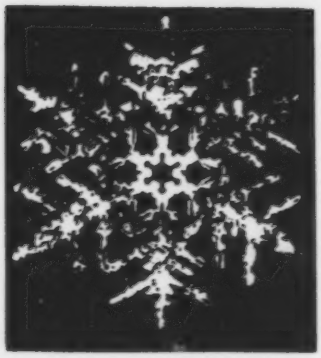
time to observe and watch birds if you just know what to look and listen for.

Note - Additional birds seen around Irwin Lodge but not on the hike included Tree Sparrows, Dark-eyed Juncos and Pine Grosbeaks.

Snowgeese

Snowgeese seen from above
clustered white like clouds
or a living nebula
moving milky way
suspended in space.
This arctic land receeds
for soaring snowgeese
to a chunk of rock
and moss-softened soil
among a galaxy of others.
To draw away from
the fictitious boundaries of trees
and mountains that seem to roof the sky
is to rediscover wonder
and selfless sudden knowledge
that land and caribou and birds
have a presence,
testimony to their awareness,
just as surely as the silence of snowgeese
hovering above land
is a presence in the heart of God.

- Anne Champagne



WINTER INTERPRETATION

National Capital Commission

The National Capital Commission (NCC) is a Crown Corporation responsible for the orderly development of the Nation's Capital. In matters pertaining to land and land planning, the NCC acts as the Government's agent. The Greenbelt, a strip of land surrounding Ottawa, and Gatineau Park, to the north, form the major part of Commission lands. Interpretation began in 1974 and is aimed at local residents, visitors and schools.

Shirley Black generously arranged a demonstration at the Workshop of some of NCC's approaches to winter interpretation, though due to illness, the demonstration was run by Aileen Merriam. Some of the interpretive signs used by NCC were placed along a trail near the lodge and a group was taken on an interpretive hike. The importance of asking the groups questions and providing materials, such as an antler, to touch and examine, was stressed. Suggestions were provided for pre-trip preparation and post-trip follow-up activities. A selection of NCC's written materials was displayed, some examples of which are reproduced below:

Reference:

Black, S. "Winter Interpretation at NCC", Interpretation Canada, 3 (2), 1976, pp. 18-20.

THINGS TO DO AT SCHOOL

(All are related to the winter theme. They can be used as preparation for or follow-up to the visit to a Gatineau Park Nature Centre).

SOCIAL STUDIES:

- How have Inuit and Northern people devised ways of living with snow and cold? (See Owl magazine, January 1978. "Ochad and Puglik - Children of the North").
- How does snow affect life in a city? - snow removal, use of salt or sand on roads, insulation in houses, fuel costs.
- How does snow affect humans? - winter clothes, different foods, illnesses, travel.
- Snowshoeing is an ancient mode of travel. Canada's native peoples developed many types of snowshoes. Why were there so many different shapes? How were snowshoes made?

LANGUAGE ARTS:

- Read about explorers who discovered the North and South pole.
- Write poetry, Haiku about snow/winter.
- For younger children, make a chart of words to describe snow.
- Role-play different winter animals.
- Make up a story about animal tracks seen in the woods.
- Make a scrapbook of newspaper articles that show how winter affects people.
  Write your own article on being lost in the woods during the winter.
- Make a scrapbook with pictures and stories of your visit to the Gatineau Park Nature Centre.
- Write a letter to the Park naturalists to tell them about your stay at the Centre. What did you see? What did you like or dislike?

ART:

- Make snow sculptures outside.
- Decorate the class with paper snowflakes. Try to make many different shapes.
- Drawings of winter scenes.
- Make bird feeders from recycled material - milk cartons, coffee cans, javex bottles. Hang them at home or near the school and sketch the birds that visit.
- Make a bird tree for your class. Find a dead tree branch and hang it up or stick it in a pail of sand. On the branch, hang your drawings of winter birds.
- Try to design an animal that is adapted for shoveling snow.
- Try to design a machine that makes "instant snow balls", or a machine that changes snow to ice cream.
- With paper and charcoal make bark rubbings of trees aroung the school yard.
- Make funny posters showing the problems animals face in winter.

MATHS:

- Make a map of the school grounds. Measure snow depth at different places around the school and put the information on the map. Why is there more or less snow in some places?
- Calculate the water content of snow. Take snow samples of equal volume and bring indoors to melt. What does the amount of water tell you about the air content of the snow?
- Have a math quizz using snow problems.
- Lay out a transect line from the school, out into an open wind-swept area. Measure snow depth at points along the line and put the results on a graph.
- Make a graph comparing the weight of a person with the depth of sinking in the snow.

SCIENCE:

- Go on an icicle hunt. Record where you see icicles (buildings, cars, fences, etc...). Why are some longer than others? How do icicles form? Why are they pointed? Bring an icicle to school and cut it with a knife. What do you see inside?

- Keep a diary of the weather for a month (from the newspaper or your own observations). How many times were the weatherman's predictions right? How does he predict the weather?

- What are the effects of snowmobiles on snow, on wildlife?

- Do some research on an animal whose tracks were seen at the Centre. How does it survive in winter? Do you think the animal would like to trade places with you? Would you like to become that animal? Why or why not?

- Why do some birds spend the winter here instead of migrating? How are they adapted for the winter? How can their beaks tell you what kind of food they eat?

- Have a quizz with animal tracks. How many can you recognize?

- Why are some trees evergreen? How are their leaves different from deciduous tree leaves? How do animals use evergreens in the winter?

- Can you identify trees without their leaves? Go on a tree scouting expedition. Pick 2 or 3 trees, sketch their shape, record the kind of bark and sketch the buds. Back in the class, use field guides to identify your trees.

National Capital Commission / Commission de la Capitale nationale

Interpretation Service
Gatineau Park

WINTER ACTIVITIES - NATURE AWARENESS CENTRES

THEME: Winter Habitats

DURATION: About 1½ hours

LEVEL: For students of grades 4 to 6

INTRODUCTION

An animal's habitat is the place where it usually lives: for example, the red squirrel's habitat is a mixed forest with conifers and deciduous trees. During the winter season it is often easier to recognize animal habitats, since the inhabitants leave tracks and signs of activity that are quite evident. The choice of a habitat is influenced by several factors: the animal's way of life, the availability of food and shelter, as well as prevailing weather conditions.

During this activity, the students will visit two very different habitats - a forest and a field. While on-site, they gather information to determine which animals may be present and what kinds of climatic conditions prevail.

EQUIPMENT

For each pair of students:

- one metre-stick
- one thermometer
- one clipboard with pencil
- one data sheet
- one track chart (opt.)

PREPARING THE ACTIVITY

1- Briefly discuss winter survival with your group. How do humans prepare for winter? How do animals prepare? (For example: A hare's fur turns to white; squirrels gather a store of nuts; bears go to sleep).

What factors could influence an animal's survival in winter? (Availability of food; protection from the cold, from predators; ease of movement in the snow...).

Do animals prefer certain areas (habitats) rather than others? What kind of shelter would a mouse choose? a rabbit? a squirrel?

2- Explain how to use the equipment to take measurements on site-thermometers, rulers, etc...

THE ACTIVITY

A maximum of 10 students, working in pairs can participate, at one time, in this activity. The naturalist will suggest appropriate study sites.

WHILE ON SITE

1- Ask each pair of students to find a place that could serve as a shelter for an animal. In the field, this may not be possible, so, they can choose a spot at random.

2- For each habitat - the forest and the field - the students should collect the information listed on their data sheets (included - last page). If it is very cold outside, ask the students to write in the answers to numbers 1 to 4, only.

FOLLOW-UP TO THE ACTIVITY

1- Review the results obtained. (These could be recorded on a large poster).

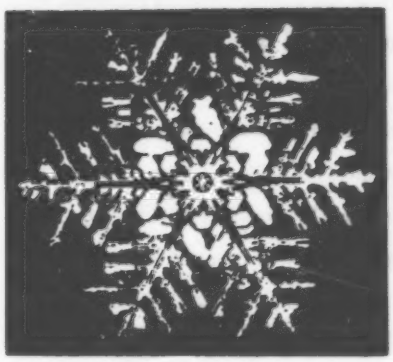
Which habitat offered the most shelter or protection to animals?

Was there a difference between the air temperature and the temperature beneath the snow (or inside the shelter)? Why was this?

Where did you see the most signs of animal activity (tracks, browsing, droppings, etc...)? Did you identify any of the animals present (refer to track charts)?

Which area - the field or the forest - do you think animals prefer in winter? Why?

2- Refer to the poster "Where do they go in Winter". Ask the students to place the animals in the appropriate numbered spots, according to the clues offered by the drawing.



SNOWSHOES AND SNOWSHOEING

Upper Thames River Conservation Authority

Introduction

Snowshoes are symbolic of the Canadian winter. They remind us of our native heritage and of the fur trade. They can be indicative of traditional craftsmanship and modern technology. They afford a means for winter recreational travel. As such they can form a basis for winter interpretation.

At the workshop Jack Siegel of Seneca College provided a fascinating discussion of snowshoe styles, construction and use.

Below are some excerpts from a pamphlet used in the Snowshoe Program offered by the Upper Thames River Conservation Authority.

Editor.

Snowshoes

The snow lays deep during most of the long winters in Canada's northern woods. To make a living a man had to tend his traps no matter how high the snow drifts. Even today a small portion of Canadian society still depends on the snowshoe for winter transportation. Timber cruisers, prospectors, surveyors, trappers, hunters, and fishermen all see the snowshoe as a necessary tool.

The snowshoe is also a source of recreation, pure and simple. It makes the outdoors as accessible in the winter as it it in the summer.

Snowshoe Style

There are many styles of snowshoes each developed by a particular tribe of Indian or Eskimo. Each style is suited to the type of terrain, work and habits of the users.

Indians were the great innovators in snowshoe design, Indians tended to move into the forested temperature zone where snowshoes were an absolute necessity in getting around in the wintertime. On the other hand, the Eskimos living in polar regions, did not find snowshoes essential for they traveled over the sea ice or on the wind-packed snow of the tundra.

The Athapascan Indians of the American and Canadian west and the Algonquin Indians of the Ottawa and St. Lawrence River Valley areas brought the snowshoe to the peak of perfection. These Indians lived south of the treeline where forest trails and mountain passes are often clogged by deep, soft snow, and snowshoes meant the difference between life or death. Starting with the basic bearpaw design, they introduced many variant ptterns suited to all possible conditions.

Standard Bearpaw (basic)

This snowshoe resembles a huge bearpaw track and it functions most effectively in heavily wooded areas or in situations which require frequent turning. The basic style had a few handicaps and its design was altered.

Green Mountain Modified Bearpaw

This snowshoe retains the rounded tail of the standard bearpaw, but it is narrower and longer and has some upturn added to the front. This style is best for hilly and mountainous country where its narrow shape makes it less inclined to tilt downslope.

Westover Modified Bearpaw

This snowshoe retains the oval shape of the standard bearpaw, but a stubby squared-off tail has been substituted for the rounded tail. This style would have less tail drag and thus require less effort.

Michigan and Maine

These two styles are practically the same; they both offer a teardrop shape with a broad and slightly upturned nose and narrow tail. Either of these styles are good for travelling along trails or in open wooded areas. Their long tails make them track in a straight line, the way the feet are pointed. Because the snowshoe is tail heavy it keeps the snowshoe on course and also helps keep the tip out of deep snow.

Alaskan

This snowshoe is long and narrow, and has a very distinct upturned toe and long tail. These snowshoes are good for travel in deep snow and open country. They have very little tendency to tip sidewise and the

upturned toe keeps the tip free from catching in deep snow or under crust. This snowshoe is not suitable for wooded areas due to its length.

Ojibway

This snowshoe is long and narrow with a strong upturn at the tip, with both tip and tail being pointed; the result of its frame being made of two pieces of wood joined at tip and tail. This style is best used in open country and deep snow. The pointed tip knifes through deep snow and does not load up with snow.

Canadian Cruiser

This snowshoe is made of lexan polycarbonate and is cast as one unit. This material is durable; will not bend, crack, stretch, fray, or warp, therefore, it requires no maintenance. In style it is similar to the Alaskan, long and narrow with an upturned tip and a rather short tail. This modern snowshoe also has crampons and ice breaker teeth to break through crust for nonskid traction.

Snowshoe Construction

The snowshoes which we are most familiar with are the traditional models constructed of reinforced hardwood frame with rawhide webbing interlaced.

White ash is the best wood for snowshoe frames. The wood is selected for its slow growth and straight grain. White ash has a 40% moisture content when green, and it reaches best bending capabilities with a moisture content of about 20%. Too much moisture will cause the wood to explode when heated and too little moisture will cause the wood to lose its elasticity.

The best frame stock has been split from the tree in such a way that the grain is only slightly interrupted, thus giving incredible strength. Nowadays, most of the frame stock is quarter-sawn, and only hand craftsmen take the time to split out frame stock. After being split the frames are then steamed and shaped with cross bars inserted, and stacked in a kiln or hot room to dry. It is preferable to air-dry wood rather kiln-dry wood, because this gives the wood a longer life. After the frames are dried, they are sanded and sealed with waterproof varnish.

The frame is now ready to be laced. The basic concept behind snowshoe lacing is to provide enough light, yet strong and durable surface area to keep a person from sinking down too deeply into the snow. The

lacing, which comes from the animal's intestines (gut) or hide (rawhide), must always be tightly woven. Before lacing, the rawhide is first dried for preservation, then soaked in water so it can be cut into strips and made flexible for the lacing process. After lacing the rawhide is treated with a waterproof varnish so that it will not soak up moisture and stretch.

The lacing patterns vary according to the user and the snow conditions. For coarse granular surfaces, or thick crusty surfaces, a heavy open webbing is best, and a fine mesh webbing is desirable for travel in light fluffy snow.

Snowshoe Bindings

A good foot binding is an important part of the snowshoe. The binding is what secures the feet to the snowshoes. There are numerous types of bindings: toe strap, toe pocket, lampwick, rubber inner tubing, etc.

A simple binding is a length of lampwick or leather tong which is double lashed from the snowshoe over your toes then criss-crossed back in a loop around the ankles and tied. This is the squaw hitch, used by Indians, Eskimos, and white trappers in Alaska.

The most widely used binding is the H harness. This harness is made up of a wide leather toe strap and a leather heel strap with a cross strap over the instep.

Fitting the Harness

Fitting the harness to the boot is the only critical task to enjoyable snowshoeing. Take time to put your toe no more than halfway (1/3 - 1/2) in the toe hole, secure the toe strap tightly, then secure the heel strap comfortably. When walking the toe rides up and down in the toe hole and the heel is free to lift off the snowshoe.

Footgear

Footgear is also a critical part of snowshoeing. Mukluks, high moccasins, hunting boots, snowmobile boots, galoshes all with wide toes and low soft heels perform well. The boots to avoid are high heeled ones which damage the webbing and narrow toed ones which are difficult to fit into a harness. It is ideal to wear a pair of light socks and one or two pairs of woollen socks.

Care of Snowshoes

Like any piece of equipment snowshoes need attention and care.

When the winter seas is over, shellac the gut lightly to keep it

from rotting and rub the wooden parts down with linseed oil or shellac. Hang your snowshoes up in a cool dry storage place.

When in use during a hike or overnight don't place your snowshoes close to the fire. Stand them on their tails in the snow or hang them on a convenient branch. They may be utilized at camp to keep packs and light equipment off the snow, but do not use them for shovels or rakes.

Snowshoes and Bindings

For program activities the students use a Canadian Cruiser snowshoe with the H Harness binding.

Traditional snowshoes are available for teaching and viewing purposes.

Footgear

Students are asked to wear boots with a wide toe and low soft heel. Mukluks, moccasins, hunting boots, snowmobile boots, and golashes all perform well. If students do not have these boots available have them wear their regular boots and have them bring their running shoes along with a pair of thick wool socks. It is advisable that students wear a pair of light socks with one or two pairs of wool socks.

Clothing

Layer your clothing; several layers of light clothing is better than one heavy layer. One or more of the light layers can be removed as your exertion increases in order to keep from getting overheated.

Wear wool fabric garments if possible. Wool wicks the moisture (perspiration) away from your skin and it also has pockets of dead air space which traps body heat. Wool will also keep you warm when wet.

Wear undergarments (long johns and a t-shirt) with two sweaters, and warm trousers. Water repellent over garments are best because they not only keep you dry, but they protect you from the wind. Don't forget your mittens and hat. In cold weather your neck and head area can lose from 50-75% of your body heat.

Snowshoe Activities

After the students have learned the technique of snowshoeing and have experienced a short hike, outdoor education and recreation activities can be incorporated into the program. The following activities are possible during a snowshoe program:

** Orienteering - related to various environmental studies e.g., tree studies, measurement studies, lake and stream studies.

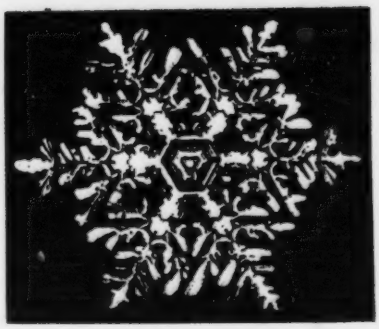
- Woodlot Studies
- Tree Studies
- Animal Track Studies
- Winter Shelters and Survival

- Winter Campcraft
- Hikes and Tours
- Measurement Studies
- Snow Studies
- Outdoor Sketching
- Winter Cookout
- Native Winter Games
- Winter Scavenger Hunt
- Weather Studies

This combination of activities will function very effectively in one program, if the students have covered the material we have provided on snowshoeing.

Classroom Lead Up Program Ideas

- Discuss the parts of the snowshoe and the construction of the snowshoe. Compare this to the modern snowshoe construction.
- Examine a snowshoe carefully to see how it is constructed: write a description of the snowshoe construction to someone who has never seen a snowshoe before.
- Make an actual or a small version of the emergency snowshoe.
- Discuss snowshoe styles and determine why that snowshoe shape was appropriate to a particular tribe or geographic region. Mark on a map the approrpriate geographic area for the various snowshoe style use.
- Look at the standard bearpaw style snowshoe and discuss how and why the various snowshoe styles evolved from it.
- Discuss the proper care and handling of a snowshoe, and why this is important.
- Discuss the adjustment and procedure of putting on the binding to fit the boot. Difficulty with bindings can be an unpleasant experience.
- Discuss winter clothing and review tips on how to stay warm in the winter.



WINTER PHOTOGRAPHY

Martin Coles
The Globe and Mail
Toronto

No matter how low the tempeature plummets, you can use your camera equipment without risk of damage. But several precautions are necessary for successful outdoor photography in the rigors of a Canadian winter. When you first step out into the cold, keep the lens cap on until the camera has cooled down to the outside temperature. If you don't do this, snowflakes may melt on the still-warm lens and freeze. When using the camera, avoid breathing on the lens or viewfinder because the moisture in your breath will also condense and freeze. Before setting out in temperatures below minus 25 Celsius, cover any exposed metal surfaces at the back of the camera with masking tape to avoid having your face freeze to the camera when you go to use it.

Cold temperatures create two problems for film. As it cools, film becomes less flexible. At extremely low temperatures, it is so stiff and brittle that it will break if subjected to a sudden strain. To avoid this, advance the film slowly and carefully after each shot. Also, take the time to rewind the exposed film slowly. Be careful when handling very cold film, because the edges can become sharp enough to cut your fingers.

The dryness of very cold air can also cause problems with film. In very dry conditions, static electricity is generated when the film is moved through the camera. If a

sufficient electrical charge builds up, it will discharge, causing a lightning-like zig-zag line across the film. Again, the solution is to move the film as slowly as possible through the camera.

As the temperature drops, the lubricants in your camera also become progressively sluggish. Sticky lubricants can cause your shutter to run much more slowly than normal, resulting in overexposed photos. It is also possible that the diaphragm will stick, either in the open or in the stopped-down position.

To function properly at temperatures below minus 40, a camera must be winterized. All the regular lubricants must be removed and replaced with special low-viscosity varieties that do not become gel at super-low temperatures. Most amateurs are not prepared to pay $150 or more for this winterization procedure. Fortunately, most modern cameras will continue to function well at temperatures as cold as minus 20 and, in some cases, right down to minus 40. You will have to resort to trial and error to find the lowest temperature at which your own camera functions properly.

Camera batteries also lose a great deal of their power at low temperatures. If you expect to be out in the cold for extended periods of time, slip a spare set into a warm inner pocket. Alternate the batteries every few hours.

The sunlight reflected by snow contains a large amount of ultraviolet light, which can give a bluish tinge to color photos. An inexpensive UV filter attached to the front of your lens will cut out unwanted ultraviolet light. The UV filter will also protect the front surface of your lens from scratches.

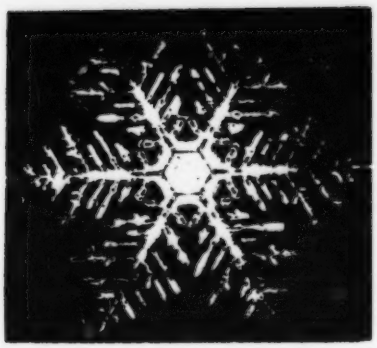
During cold weather photo sessions, your fingers will need special protection. It's best to don two pairs of gloves, a thick outer pair and a thin inner pair. Keep the thick outer gloves on until the last moment before taking a shot. Thin cotton or silk gloves will keep your fingers relatively warm as you manipulate the camera controls and take your picture.

A final difficulty can arise when you come in from the cold. If a cold camera is exposed to warm indoor air, condensation will form on the lens, on the inside of the camera and even on the film, where it can cause spot marks. You can prevent this by sealing the camera inside a plastic bag before bringing it indoors. Make sure the bag has cooled down completely before you put the camera in it. Bring the camera indoors and keep it sealed inside the bag until it has reached room temperature. This way, the condensation will form on the outside of the bag - not on the inside of the camera.

Edges

Frozen
winter has stilled
the motion of this arctic land,
Surfaced rock
shrubs
grass the wind once spoke through
are lost definitions
in the sifting snow
powdered fine
to kill the more subtly.
After the storm
wind journeys
over the wake of its power
finds lemmings
like meaningless pebbles
strewn around the edge of rocks
ptarmigan silent
among the washed wood of a shore
picks shells of claws
bone
feathers
selecting the jeweled few
and depositing the rest unwanted.
Silent on the faceless ground
a dark mound half buried
with tendrils of white
streaking their own shape to it
the shoulder and head of a muskox
seek freedom
from the final smothering white
frozen still
in the hard dead snow.

- Anne Champagne



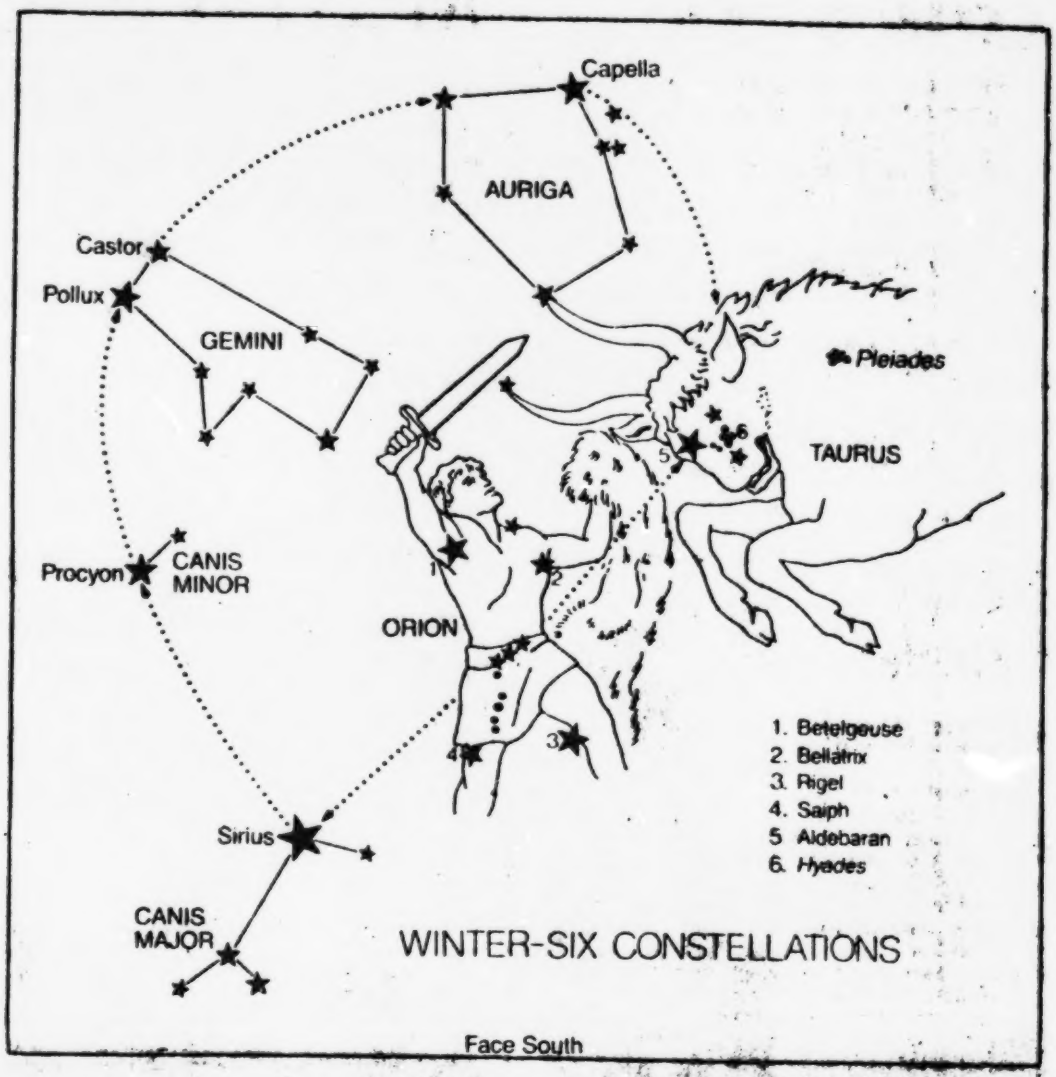
THE SKY IN JANUARY

National Museum of Science and
Technology
Ottawa

This is an ideal time to learn the winter constellations. Find a location away from interfering lights - one with a clear view of the south for Orion, the king of constellations, straddles the meridian about ten o'clock in mid-January and can be used to point the way to other conspicuous star formations.

This distinctive constellation is easy to identify. First look for three almost equally spaced, equally bright stars that form the belt of the Giant Hunter. Unlike mythological figures represented by many constellations, it takes little imagination to picture Orion in the huge near-rectangle of bright stars enclosing the belt. Betelgeuse and Bellatrix indicate his shoulders. Rigel and Saiph his legs. From Orion's belt dangles a sword. Binoculars reveal a hazy patch in the midst of these faint stars. This is the Great Nebula of Orion.

Once Orion has been located it is easy to follow an arc of bright stars, each identifying a different constellation. First follow the belt stars downward to Sirius, the Big Dog that perpetually follows the Hunter. Sirius is the brightest star in Canis Major, indeed, the brightest star in the night sky. Now swing upward in a clockwise direction first to Procyon in Canis Minor the Little Dog, then to two stars Pollux and Castor, the twin stars in Gemini. High overhead, Capella, the next bright star on the arc, marks Aunga - a pentagon of stars one of which is at the tip of a V-shaped formation marking the horns of Taurus the Bull. Close to the point of the V red Aldebaran marks the right eye of the Bull. Aldebaran can also be located by


Capella
AURIGA
Castor
Pollux
GEMINI
Pleiades
TAURUS
Procyon
CANIS
MINOR
ORION
Sirius
CANIS
MAJOR
1. Betelgeuse
2. Bellatrix
3. Rigel
4. Saiph
5. Aldebaran
6. Hyades
WINTER-SIX CONSTELLATIONS
Face South

following Orion's belt upward. These constellations are known as the Winter Six.

Two spectacular star clusters are located in Taurus: the Hyades, a large open group to the right of Aldebaran and the Pleiades, a beautiful tight cluster of six naked eye stars above and to the right. Use binoculars to search for faint stars in these clusters.

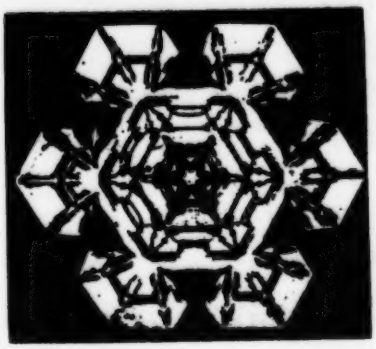
Planets

When two celestial bodies appear close together in the sky they are said to be in conjunction. While the conjunction of Mars and Mercury on the 23rd is the closest of 1981 (look low in the southwest just after sunset - Mercury is the brighter object), a most unusual event - a Triple or Grand Conjunction of Jupiter and Saturn occurs on January 14, February 19 and July 30. While conjunctions of these two giants of our Solar System occur at approximately 20 year intervals, only about one in six of these is a triple conjunction. Have a last look at Venus! Still a "morning star" it is nearer the eastern horizon with each sunrise and by mid-February will be too close to the sun to be seen.

d	h	(Universal Time)
2	02	Earth at Penhelion
3	14	Quadrantid Meteors
4	09	Venus 3" S. of Moon
6	07	New Moon
7	21	Mars 1.6 S. of Moon
13	10	First Quarter Moon
14	08	Jupiter 1.1 S. of Saturn
20	08	Full Moon, Penumbral Eclipse
23	22	Mercury 0.3 S. of Mars
25	17	Saturn 2' S. of Moon
25	18	Jupiter 3' S. of Moon
28	04	Last Quarter Moon

At penhelion the earth is at the point in its orbit where it is closest to the sun - approximately 3.4% nearer than when it is at aphelion about the first of July.

Many faint Quadrantid meteors can be seen when conditions are good, but the shower is shortlived with this year's peak time occurring in daylight - hardly ideal circumstances for a good showing!



INTERPRETING HISTORIC SITES AND ACTIVITIES IN WINTER

John Marsh
Trent University

Introduction

In recognition of the wealth of opportunities for interpreting historic sites and activities in winter a session at the Workshop was devoted to this theme.

Interpretation at historic sites in winter can be simply an extension of summer programming or it can seek, probably more appropriately, to indicate to the visiting public what it was like in the past to live, work and recreate during the Canadian winter.

Questions suggesting potential for winter interpretation include:

1. How did people dress to keep warm?
2. How were buildings heated?
3. In what ways were buildings designed to cope with winter conditions?
4. How did people amuse themselves through the winter?
5. What activities were confined to winter?
6. How did people celebrate events in winter such as Christmas and New Year?
7. How did people view the rigours of winter?
8. How has ability to deal with winter changed over the years?
9. What artifacts were associated with winter?
10. Was winter weather the same in the past as now?

Interpretation based on such questions can be achieved using any of the usual means: displays, signs, slide shows, audio tapes, guided tours. As with summer interpretation, however, re-enacting and participatory approaches will likely have the most impact. At the Workshop a

number of sites and participatory approaches to winter interpretation of history were discussed. These included the live-in programme at St. Marie among the Hurons, the Christmas events at Hutchison House, Peterborough, and several Maple Syrup production demonstrations.

Séjour à Sainte-Marie

At the workshop, staff and students from Anderson Collegiate described their participation in the Séjour à Sainte-Marie, or Live-in, programme offered by Huronia Historical Parks at Sainte-Marie among the Hurons.

The Live-in is "an in-depth visit to Sainte-Marie, the reconstructed Seventeenth Century Jesuit Mission headquarters, where participants actually re-live the Seventeenth Century as much as possible." This includes food preparation, various daily and evening activities and sleeping. The Live-in lasts for two nights and three days, on weekdays during February and March. There are normally 20-25 participants with at least two supervisors.

The programme, tailored for each group, may include: Mass, in the Church of St. Joseph, work in the blacksmith and carpentry shops, snow-shoe hikes, winter games such as hockey and lacrosse, map making, corn husk work, making quill pens, film making. Menus often include fish, pea soup, baked apples and venison. Cooking facilities include fire-places and a bake oven. Participants sleep in the reconstructed buildings using sleeping bags, and air mattresses if preferred.

The present charge is only $4 per student, per night but, due to demand, reservations may have to be made a year in advance.

Hutchison House

Tom Kuglin, curator of Hutchison House, Peterborough described some of the winter events held there. Hutchison House was constructed in 1836 by the citizens of Peterborough to induce a Dr. John Hutchison to keep his medical practice in the city. It has been restored to recreate the atmosphere of life in rural Ontario in the 1840's. Managed by the Peterborough Historical Society, and run by a paid staff of two and volunteers, it operates on a budget of $57,000 per year. Open from 1-5 p.m., Tuesday to Sunday, attendance is around 6,700, with about one third being school groups, one third special groups, and one third, the general public.

There are three main events hosted by Hutchison House during the winter. The first features pioneer cooking. This is arranged in conjunction with the Peterborough County Board of Education and provides students with an opportunity to prepare and cook food in the manner prevailing in the mid-1800's.

The second event is Christmas Preparation Day. This emphasizes the traditional English and Scottish ways of preparing for and celebrating Christmas. To the surprise of many visitors early nineteenth century Christmas celebrations did not involve Christmas trees or the idea of Santa Claus.

The third winter event is the biggest day of the year for Hutchison House. This focusses on the traditional Scottish celebration of Hogmanay at New Year. At the House traditional foods and drinks are served and last year some 500 people showed up for this special event. Given the limited capacity of the House careful consideration must be given to planning and managing such popular events.

Maple Syrup Demonstrations

For many interpretation agencies in Ontario, especially the Conservation Authorities, the main or only interpretation activity held during the winter is the demonstration of ancient and modern practices of Maple Syrup extraction and production. The "Maple Syrup Experience" provided by the Kettle Creek Conservation Authority is typical and is described in the following extracts from the brochure concerning it.

A Maple Syrup Experience

Created by the Kettle Creek Conservation Authority, A Maple Syrup Experience is a functioning demonstration of the production of maple syrup from a historic as well as modern perspective.

The site of the demonstration is the Lake Whittaker Conservation Area, located 5 miles south of Highway 401 on Highway 73 and 2 miles east on County Road 37.

The production of maple syrup has had an important role in the history of Canada, acting not only as an additional food item but also being a viable product to be sold. A Maple Syrup Experience travels through the past from the Indians with their birch bark buckets and hollowed logs to the early settlers with their wooden buckets and flat pans. This nostalgic tour continues with the present day maple syrup producer and his plastic tubing, pails, and sugar shanty with a modern

evaporator.

Indian Method

In the 1700's before the introduction of metal and the immigration of Europeans to North America, the native Indians had discovered sweet water flowing from a gash in a tree. The production of maple syrup, as we know it today, was the direct result of this incident. Wooden or reed spiles driven into the lower end of the gash directed the sap flow. Pieces of birch bark were threaded together and formed into buckets for transporting the sap to a hollowed out log. Rocks heated over an open fire were placed into the sap with wooden tongs so that the excess water could be evaporated. This was a slow crude process but a good source of food in the latter part of the winter.

SINZIBUCKWUD was the Indians' word for maple syrup.

Early Pioneer Method

The arrival of the Pioneer brought the first improvement to the maple syrup industry. A Jesuit priest was said to have been the first white man to taste maple syrup. Although they still used wooden spiles and buckets, the iron kettle replaced the Indians' evaporator and proved to withstand much more heat. Therefore evaporating time became shorter and production increased. However, the product was still crudely refined and strong flavoured because sap was continually added to the pot until enough syrup or sugar was obtained.

The increase in production gave the new settlers a household basic for sweetening as well as an item for trade. The use of maple sugar decreased with the introduction of sugar cane, but the special taste of maple syrup created its' own market.

Late Pioneer Method

The introduction of the flatpan and the enclosed sugar shanty improved methods of heating. The sap could be heated more equally and the temperature held steady for longer periods of time. As metal became readily available, wooden spiles and buckets were replaced with newer types. Flues were added to the flatpan for better control over directing the sap at various stages of evaporation. Refinement of maple syrup methods now yield larger quantities and high grades of quality. This became a demanding process but a good source of income in the late winter and a special time of year for the sugar bush owners and their families.

Lake Whittaker was purchased in order to protect a natural water source and retention zone for Kettle Creek as well as provide a comprehensive wetland, forest and wildlife management program incorporating outdoor educational and recreational opportunities. A Maple Syrup Experience examines the elements of each of these programs in relation to conservation and more specifically, maple syrup production. Woodlot management, tree identification, water retention, surface runoff and drainage characteristics at Lake Whittaker are presented during tours to more accurately describe the various aspects of a sugar bush operation.

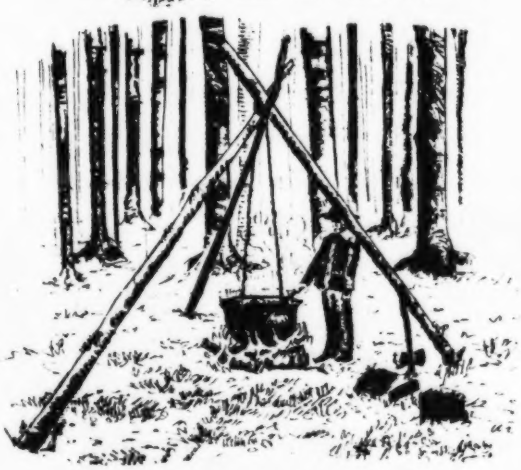
The Kettle Creek Conservation Authority is tapping approximately 600 trees in the 18 acre sugar bush, helping to make the tour an enjoyable and educational experience. For those with a sweet tooth maple syrup and maple products are on sale.

Conclusion

Given the significance of winter in Canada, the wide variety of historic sites and the proximity of many to centres of population opportunities for winter interpretation of such sites abound. Such interpretation should not be simply an extension of summer programming but should aim to reveal how Canadians dealt with winter in the past. Focusing on their attitudes, activities and artifacts it can be both recreational and educational.

Winter operation of historic sites calls for budgetary changes, different staffing procedures, management of buildings for winter use, and research for appropriate interpretation. Winter operation can be financed at the expense of summer operation or by an increased budget or user fees. Again winter staffing may be at the expense of summer staffing or be provided from an increased budget or by means of volunteer help. The clientele in winter will often be smaller than during summer but as this is the time of school operation the possibilities for the education of younger people are greater. Winter occupation and use of sites may also contribute to reduced vandalism and a generally greater public appreciation of the work of the agency.

Clearly, as in the case of nature interpretion, the potential for winter interpretation of historic sites is great but as yet largely unrealized, though several examples, such as those discussed here, and at the Workshop, point the way.



SELF-GUIDING TOUR OF THE LAKE WHITTAKER SUGAR BUSH

1 INDIAN METHOD

2 EARLY PIONEER METHOD

3 LATE PIONEER METHOD

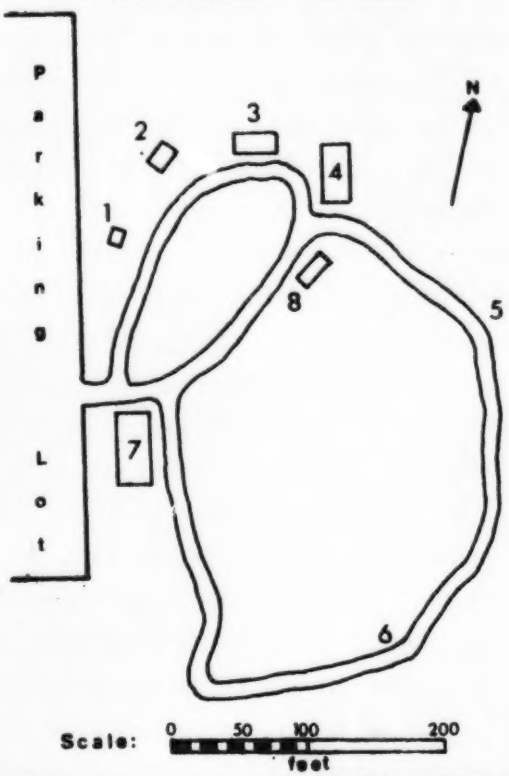
4 MODERN EVAPORATOR BUILDING
(displays inside)

5 VACUUM PIPELINE

6 SUGAR BUSH TRAIL

7 PANCAKE HOUSE
(washrooms inside)

8 MAPLE PRODUCTS FOR SALE



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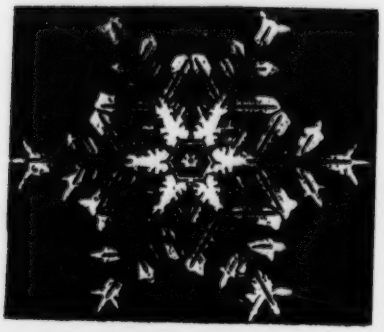

INTERPRETATION OF FOSSIL POLLEN RESEARCH

Mici Gold
149 Elder Avenue
Downsview, Ontario
M3H 5G9

Without a doubt, the basis of any good interpretation is good research, whether the subject is science, archaeology, history or a combination. Unfortunately, small organizations or institutions sometimes have neither the funds nor the expertise to conduct specialized research themselves. Instead, they rely on books, periodicals, universities and museums to supply information.

The Royal Ontario Museum (as other institutions) frequently conducts field work in Ontario. Some of the information is not published immediately because it is part of on-going research or of student research or because there is a backlog of artifacts and fossils waiting "curation".

In an effort to see at least one small research project saved from such obscurity, I decided to turn my master's research into a slide show that could be used by the provincial park in which I did my field work. This research was in fulfillment of a Masters of Museology degree offered by the University of Toronto in conjunction with the Royal Ontario Museum. It combined my scientific discipline (botany) and museology. The resulting project (Vegetation and Vegetation History of Arrowhead Park and Their Interpretation for a Recreational Public) was supervised by Dr. J.H. McAndrews in the (then) Geobotany Laboratory of the R.O.M. It involved studying fossil pollen from one lake in Arrowhead Provincial Park (near Huntsville) and relating it to known post-glacial geology in the area and to other unpublished pollen studies in nearby lakes. The result would give the park's interpretive staff a detailed account of botanical and

geological changes in the park since deglaciation (as well as contributing to on-going research by Dr. McAndrews).

Having been a park interpreter, I realized that an interpreter is sometimes stymied by how best to present the results of specialized, technical research. Because Arrowhead Park has a summer interpretive program and an amphitheatre on the shores of the lake which I studied, the choice of a narrated slide show seemed obvious. Park user surveys (1975) suggested that the comprehension level of the show should be no more than grade eight. Thus the challenge was to reduce the complexities of deglaciation* and fossil pollen analysis to junior high-level comprehension. Guided by Rudolph Flesch's book, The Art of Readable Writing (1949), I minimized technical jargon, simplified scientific diagrams and incorporated the sequence of research events and discoveries into a story ("The Secret of Mayflower Lake") that could be understood even if the diagrams were not. Fortunately, I had taken slides of the entire process from the beginning. Even so, special slides were needed.

There is no room to reproduce the script of the slide show here. But if you'd like, you may obtain a copy from me at the address below. The slides may be viewed in the Botany Department of the Royal Ontario Museum. You should note that fossil pollen analysis has been used in botany, zoology, geology and archaeology to learn about climate and forest conditions in the past. Pollen studies have been made in most parks and major lakes in southern Ontario and in many in northern Ontario. Only some of these have been published to date. Additional information about fossil pollen analysis may be obtained from the Botany Department.

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* Glaciation and its effects on the land and life forms of Ontario is the tenuous connection of this project with "winter interpretation".

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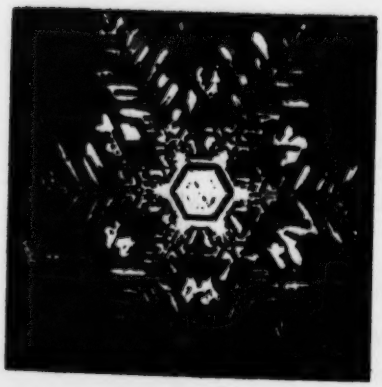


SCHOOL EXTENSION PROGRAMMING IN ST. LAWRENCE ISLANDS NATIONAL PARK

Linda M. Sutterlin
St. Lawrence Islands National Park

Are you new to the field of Interpretive Programming for Schools? I would like to share a few thoughts on my experience with a relatively recently established programme.

To begin with, allow me to indulge in a few ideas about extension programmes in general. Following this I will outline the history, life and times of the School Extension Programme here at St. Lawrence Islands National Park and some approaches that make it quite unique.

The need for interpretive efforts extending beyond the limits of a park or conservation area is becoming more and more pressing. Few would argue the benefits of helping people to better understand the local environment in which they live. Extension programming is an active means of reaching area residents and any effort put into community-oriented interpretation is, in my opinion, well spent.

School groups are an important audience. Children and young adults are usually eager to learn and experience, and are developing their systems of values and ethics. They are around during the "off season" for many parks, hence a golden opportunity for winter interpretation. Contact with school boards, parents and teachers provides another vital link with the community.

In the case of St. Lawrence Islands National Park, the above incentives for establishing the School Extension Programme were coupled with an observable need for it in the Thousand Islands. Area teachers seemed more than willing to incorporate outdoor environmental experience into their curricula. For example, in the 1970's thousands of local school

children visited Wellesley Island State Park, on the American side of the St. Lawrence, every year.

The need being obvious, it only remained to assess the kinds of programmes best suited to area schools. In 1977, a survey of educational institutions was carried out for St. Lawrence Islands National Park by an independent research firm. Valuable information in two basic categories was gained in this way to assist in setting up the extension programme:

a) On the practical side, it was learned that film loop projectors were the only common denominator in terms of equipment owned by schools in the counties surveyed. The 'field distance', or area around the park where programming should be concentrated, was set by asking teachers how far they would prefer, and would be financially able, to travel on a field trip.

b) On the opinion side, the types of programmes desired by teachers in order of preference were assessed. The results are summarized below:

Programme Option	Percentage of teachers surveyed placing option among top three preferred
Visits to class	71
Field Trips	61
Teacher orientation	47
Films	29
Video tapes	12
Lesson helps	38
Brochures	17
Display kits	18
Games	3
Colouring books	0

* from: Survey of Education Institutions for St. Lawrence Islands National Park, A.D. Revill Associates, July 1977.

The implications of these data are surprising. Teacher-run programme guidelines and kits were ranked low on the list and yet these are the very areas traditionally receiving much attention. In-class visits by naturalists and personally conducted field trips were highly preferred.

With these ideas in mind, a full programme was set up in 1978. At first an individual was contracted to run it, and now a seasonal term

position exists for the school programme interpreter.

The programme is a success. During the last school year (September 1979-June 1980) over 5,500 students and teachers participated, making it the largest effort of its kind in Eastern Ontario. This figure is consistant with previous years even though funds for bussing in the local public school boards were severely cut last year. At least interest is still growing if budgets are not!

Ours is a cost-efficient programme. Because it is run and executed by one person, there is a low overhead. Equipment used is largely that purchased for the summer interpretive programme. It would normally sit idle during the winter months.

In general, the school programme is agency-oriented. All groups contacted receive some background on Parks Canada and its philosophies. The slant is toward interpretation rather than outdoor education. This approach is most consistant with park use. For example, extensive trail systems for orienteering exercises would put undue pressure on the land. We co-operate with other area organizations and recommend them if a requested programme is more suited to their facilities.

St. Lawrence Islands National Park's School Extension Programme is rather unique in a few ways. Firstly, the focus of study is not on the park itself, nor Ontario in general. The main thrust is toward an understanding of the Thousand Islands Area as a special region of Canada. Field trips are taken to many sites outside park boundaries in co-operation with private landowners and other agencies. It is felt that the benefits to the community resulting from this approach are great.

Secondly, our programmes are built on a multi-part format. Background information on a chosen topic is sent out after a teacher has booked a programme in response to our "advertising". The next stage is an in-class visit by the naturalist. This builds up the level of anticipation, prepares the student for what he or she will see and do, and enhances the overall learning experience. Teachers are particularly pleased with this aspect of our programmes. The actual field trip takes place within three days of the in-class session. Follow-up activities are then suggested for use by the teacher. This consolidates the interpretive experience. Finally, we ask that the teacher fill out a feedback form to help us improve the programmes (see sample form).

ST. LAWRENCE ISLANDS NATIONAL PARK
INTERPRETATION

Box 469, R.R. 3, Mallorytown, Ont.
K0E 1R0 (613) 923-5241

SCHOOL PROGRAMME FEEDBACK EVALUATION

We would appreciate hearing your comments and suggestions about the programme. Negative responses are just as valuable as positive ones for evaluation and improvement. Thank you.

SCHOOL _____ SUBJECT _____

TEACHER _____ GRADE/AGE _____ NO. OF STUDENTS ___

1. What was the overall impression of the programme?

I) CONTENT:	too much information	__	not enough information	__	adequate
II) COMPLEXITY:	too simple	__	too difficult	__	good level
III) LENGTH:	too long	__	too short	__	good length

2. We hope that the students will retain some information about National Parks, the Thousand Islands region and conservation. Was the exposure to these ideas: too short __ sufficient

(We welcome comments from the students. Please use reverse)

3. Was the support material sufficient? Yes _____ No _____

Do you have and suggestions for additional preparation and follow-up materials? Use revers

4. Did you find this programme a worthwhile addition to your class curriculum? Yes __ No __

5. Did your class have any pre-visit preparation? Yes _____ No _____

If so, what did it consist of and how long (approximately) was it?

6. Did you integrate the visit with any of your regular studies? If so, please list subjects:

7. Would you make use of this programme if it were offered in future? Yes _____ No _____

8. Have you told other teachers about the school programme? Yes _____ No _____

9. If teacher orientation sessions were held at the Park, what subject(s) would you like to discuss?

PLEASE USE REVERSE FOR ANY FURTHER COMMENTS THANK YOU.

A short note on how the above is squeezed into one person's weekly schedule: Mondays are reserved for programme preparation, Tuesdays for in-class visits and Wednesdays, Thursdays, Fridays for field trips. It is useful to have a day each week, in this case Mondays, when one can always be reached at home base.

Our multi-part type of programme (anticipation, experience, reflection) is highly successful and works well using the personal approach (naturalists' visits and hikes).

There are, of course, pros and cons to the in-class portion of the programme. The pros, besides the obvious benefits already mentioned, include setting teachers at ease about assisting on an outdoor programme (many are wary at first) and ironing out conflicts before they arise. The cons include the time element involved in preparation and travel, plus a temptation on the part of teachers to let you do their half of the job for them instead of using you as a resource person. It is fairly certain, though, that personal in-class visits will continue here as they have become an expected and integral part of our programmes.

I should mention at this point the various topics which we offer to teachers. Their content has been chosen to meld with ongoing curricula in area schools. There are nine topics in all:

1. A Special Place - St. Lawrence Islands National Park
   (all grade levels)
2. Nature Discovery
   (all grade levels)
3. Interpreting the Outdoors to Children
   (for teachers only)
4. History of the Thousand Islands
   (all grade levels)
5. Man's Impact on the Environment (includes rare & endangered species)
   (grades 5 - 13)
6. Geology of the Thousand Islands Area
   (grades 5 - 13)
7. The Ecology of the Thousand Islands
   (grades 7 - 13)
8. Habitat Series (Forest, River, Pond, and Open Field)
   (all grade levels)

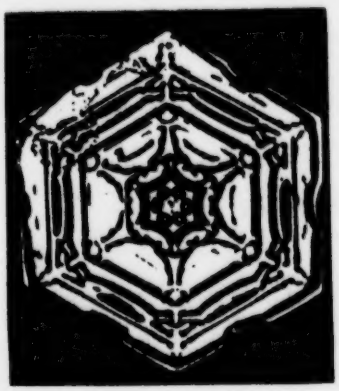
9. Seasonal Series (Autumn, Winter, Spring, Waterfowl Watch) (all grade levels)

And what lies in the future for the School Extension Programme at St. Lawrence Islands? The foci will likely remain on interpretation vs. outdoor education, on personal visits and hikes, and on interpreting the entire Thousand Islands as a study area. It is hoped that a parent/teacher advisory board will be set up to provide valuable input and foster greater community involvement. A park advisory committee has recommended that a live-in centre be established within the park. This would give small groups of public and high school students the opportunity for a week-long experience in the outdoors. The centre is still in the elementary planning stage.

This ends my discussion, but if any questions remain unanswered do not hesitate to contact me at: St. Lawrence Island National Park, Box 469, R.R. # 3, Mallorytown, Ontario, K0E 1R0, telephone (613) 923-5241.

I would also be pleased to provide samples of the School Programme Information Booklets that we send out to teachers, or examples of pre-programme information packages.

Good luck, and have fun interpreting to children. I'm finding out that it can be enjoyable and very worthwhile!



PETAWAWA RESOURCE EDUCATION PROGRAM

Jon Williams
Petawawa National Forestry Institute
Chalk River

The objective of the Public Awareness Program at Petawawa National Forestry Institute is to promote good forestry. Good forestry may be defined as management of forest land so as to produce the maximum benefit. The implications of that statement are a) in perpetuity, b) for the maximum number of people and c) both material and non-material.

One way to promote good forestry would be to blast the public with information messages via all the available media and do a real selling job on them. Another method of tackling the challenge is to put people in close contact with forests and forestry and let them draw their own conclusions i.e., use the interpretation process. We have elected to go the interpretation route in the belief that attitudes formed in this way will reflect true values and will be long-lasting.

School children form a very important potential audience for a forest resource interpretation program. They are open, keen to learn, and are the people who will have to deal with resource management issues in the future. A very important consideration in planning forest interpretative activities for school children is to ensure that visits are not isolated experiences. If a child leaves his classroom and classroom studies, enjoys a thrilling walk in the woods, and returns to his classroom environment without any carryover from his walk, his "woods experience" stays out in the woods. In order for education in the out-of-doors to be valuable, it has to be connected with the normal, everyday life of the pupil. This is accomplished through preparatory and follow up lessons in the classroom. These lessons should be integrated with as many subjects as possible such as language arts, mathematics and

science.

Interpretation as an extension of the classroom is an excellent vehicle for making people aware of forests and forestry. Natural resources become an integral part of their life, which creates more demand for good forestry.

Petawawa National Forestry Institute develops interpretive extension activities in two ways. The first one is through direct, co-operative planning with a classroom teacher.

We choose topics being covered in the classroom that may be enhanced through an outdoor exercise and build the activities around them. Thus, what happens in the woods is directly connected to the child's classroom life. Another method of achieving the same objective is by using curriculum units especially written by one of the local boards of education for use at the Institute. There are nineteen curriculum units covering grades one to ten. Topics range from beaver ponds and winter in the woods, to logging, and studies of spacing trails. Each unit ties the classroom and the outdoors together. The ones for the younger grades, in particular, use outdoor examples to develop skills in a wide range of subject areas.

In carrying out the activities on site, teachers are encouraged to do their own teaching as much as possible. In this way, lessons are more effective, as the teacher knows his own pupils personally. Lessons taught by the teacher, rather than a stranger, become more a part of the everyday reality of the student.

In a program of this sort, which requires close cooperation between agencies, the biggest potential problem is the possibility of communication breakdowns. In two different organizations, with two different administrative structures, messages moving within one structure, then across to the other, and then up or down it are easily lost, resulting in confusion and frustration. Therefore, a good spirit of friendly co-operation is absolutely necessary.

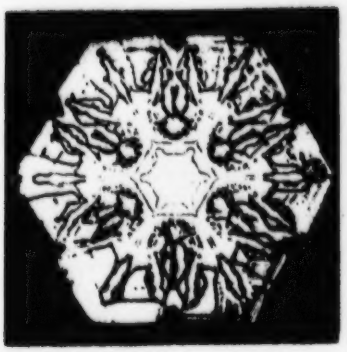
Taking school children to the woods in winter is a fearsome prospect to many. It needn't be. Children happily play outside at school in all but the coldest weather; so, with a little preparation, they can cope with it in the field. Bulky is beautiful in the winter woods. Fancy, expensive gear is not necessary; roomy, loose fitting clothes are, particularly footwear. An older sibling's boots with an extra pair of

socks will do nicely if the child's own footwear is restricted to snug, trim looking boots that don't keep the heat in.

In our area of Ontario, winter activities are badly restricted if snowshoes aren't available. However, maintaining 40 or more pair of convential wooden snowshoes, is a real drain and adjusting all those leather harnesses is worse. The plastic snowshoes that look like cheap imitations of the real thing are the answer, especially if they come equipped with non-adjustable rubber harness. The Institute keeps about 90 pair of this type. Routine maintenance consists of replacing them in the racks after use.

In cold weather, writing a lot of detailed notes or doing much fine work is guaranteed to produce cold kids. Activities should keep children moving and note making requirements should be kept very short. This means that pupils and teachers will find education in the winter out-of-doors to be a physically stimulating experience. It is also an unpredictable experience. January thaws, February cold snaps and March storms make it necessary to take things as they come. We must be willing to re-arrange plans to suit the weather that nature presents us with.

Education in the out-of-doors requires extra planning and flexibility, especially in the winter. The results, however, are well worth the effort required.



TRENT-SEVERN WATERWAYS WINTER SCHOOL EXTENSION PROGRAM

Jocelyne Daw
Parks Canada, Peterborough

The Trent Severn Waterways branch of Parks Canada has been operating a school extension program since 1978. Run during the winter months, the program ties in with aspects of elementary and intermediate level curricula, particularly local geography and history. It stresses material concerning: location of the canal; history of the area (Native and European); construction of the waterway; mechanics of the waterway; and its uses (past and present).

Workshops are held to familiarize local teachers with the program. These are aimed at three different levels - primary, junior and intermediate - to outline the various objectives of the program. Teaching aids are shown and explained, including a resource guide, an activity guide, a slide package and a manual entitled Using the Trent-Severn Waterways in your Classroom. These aids have been prepared by the Waterways and are provided free of cost to the schools.

After the workshop, a staff person from the Waterways visits the classroom to provide further assistance to the teacher.

Two problems have risen from this system: 1) the workshops (which last only one and a half hours) are insufficient to adequately acquaint teachers with the material; and 2) teachers tend to rely too heavily upon Waterways personnel.

The following pages show examples of the material included in the teaching aids.

USING THE TRENT-SEVERN WATERWAY AS A LEARNING RESOURCE - JUNIOR LEVEL

1. Identify:
   - when the Waterway was built

- where it is located
- how - Canal - locks, liflocks and marine railway

Method: - photographic interpretation - photos available from your Resource Center
- mapping activities - Activity Guide-mapping section.

2. Function:

a) Transportation Unit:
- development of transportation along the Waterway
- users of the types of transportation

Method: - photographic interpretation - use of photos to show the development of types and users of transportation
- transportation tree - development of transportation along Waterway
- drama - What Am I?
- transportation quiz - Activity Sheet

b) Native People Unit:
- native peoples use of Waterway
- historic

Method: - photographic interpretation - early use by native people - Serpent Mounds
- Early Use - activity sheet
- Petroglyphs - Activity Sheet

c) Our County Unit
- Waterway runs through Peterborough County
- role played in settlement, early industries
- how demonstrate cultural change
- modern day use and how helps Our County

Method: - photographic interpretation - How shaped County-pioneers mills - Cultural Change - building Canada - life of workers - Modern Day - tourism - Hydro-electricity - water regulation
- Activity Guide - mapping and pp. 21, 23, 24, 25, 28, 29.

d) Novel Study Unit:
- Road to Kip's Cove - upper Junior novel about two boys adventure canoeing down Trent-Severn Waterway from Lakefield to Trenton.

Method: - mapping activites - where boys went, how far, locks, etc.

photographs of Waterway from Lakefield to Trenton

- Integrate study of both Native Peoples, Transportation and our Country.

3. Field Trip:

- using Waterway for a field trip

Method: - see activity sheets and activity Guide p. 33

From: A Resource Guide to the Trent-Severn Waterway

RECREATION USE AND ITS IMPORTANCE TODAY:

Recreational use of the Trent-Severn began early. By the 1830s Rice Lake, Lake Simcoe and the Kawarthas were already the focus of activity for regattas, fish and game clubs, and the first conservationist associations. These were generally organized by the more privileged portion of society, and were small in scale.

In the 1850s and 1860s, however, improved transportation facilities, such as the railway link to Peterborough, made the waterway more accessible to the ordinary resident of Toronto and the communities along the Lake Ontario waterfront. By the 1870s, recreation had become an industry of considerable importance to the towns along the system. Steamboat excursions were an extremely popular pastime, and vessels built primarily for passenger service regularly plyed the waters of Rice Lake, Lake Simcoe, and the Kawarthas during the summer months. The *Goldeneye* was one of these — launched on Rice Lake in 1876, it could carry 300 people. Canoeing was all the rage, and Peterborough gained new fame as the manufacturing centre of the celebrated Peterborough canoe.

As steamboats proliferated and extended service northwards, so did the number of hotels and lodges which sprang up to accommodate the vacationers. Although private summer cottages were also in evidence, in mood and style the 1870s to 1890s was the era of the resort. People flocked to their favourite establishments at Lake Simcoe, Prince Edward County and the Kawarthas.

The era was of short duration. The once miraculous steamboats, which had opened the Trent-Severn to general recreational use, were eclipsed by yet another technological innovation: the gasoline engine. The advent of the automobile and improved roads made access to recreational facilities even easier.

THE LUMBER INDUSTRY

Discuss and Discover:

1. Discuss why the Trent-Severn region was such a good lumbering area.
2. Discuss the early lumbering methods, i.e. square timber and sawlog. Discuss the change in technology.
3. Discuss how the lumbering industry helped to develop the Trent-Severn waterway area, i.e. its impact on settlement, population movement, trade and commerce. Discuss which of the two types of lumbering methods had the greatest impact.
4. Discuss why the lumbering companies wanted the Trent-Severn waterway built.
5. Discuss what the lumbering companies did as one forest area was cut down. Discuss the need for conservation.
6. Discuss the area in the Trent-Severn waterway in which lumbering is still a relatively important industry.

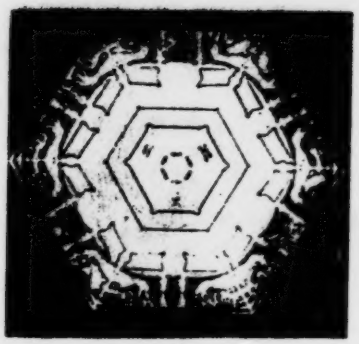
Classroom Activities:

1. Make a chart comparing lumbering operations today and during the 1800s, when the Trent-Severn waterway was an important lumber producer.

   Consider:
   - mills
   - transportation
   - technology
   - labour
   - costs

2. Almost all communities along the Trent-Severn waterway had sawmills. Do research on the sawmill and lumbering industry in your community.
3. Listen to Edith Fowke's "Lumbering Songs from the Ontario Shanties" (many of the songs come from the Trent-Severn region of Ontario). These folksongs describe the life, hardships, dangers and excitement of the lumberman's life.

From: An Activity Guide to the Trent Severn Waterway.



WINTER TRAIL MANAGEMENT

Hal Hooke
Otonabee Region Conservation
Authority

The role of the Otonabee Region Conservation Authority in the management of renewable, natural resources includes, among other mandates, the development of lands owned by the Authority for appropriate public use. Such public use can include the designing, marking and interpreting of trails for a variety of uses.

Over the last eight years, ORCA has responded to the recreational needs of the community by developing winter trails for two distinct groups of people - cross-country skiers and snowmobilers.

The Authority's efforts, to date, have concentrated on improving the location and condition of its winter trails but will, in future years, emphasize the interpretation of appropriate natural features such as geological formations and vegetation.

Our ski trails have been developed on Authority-owned property where snowmobiles are prohibited whereas the snowmobile trails are on a combination of Authority and private property causing relatively little conflict between the skiers and snowmobilers. Snow machines seldom invade ski trails and only occasionally do daring skiers use the snowmobile route.

Ski Trails

ORCA maintains marked trails at its Warsaw, Selwyn and Squirrel Creek Conservation Areas as well as permitting skiing on any of its other properties.

At the Warsaw Caves, a network of trails has been laid out with a combined length of 10 km. Although the terrain in this area is rocky

and wooded, the trails follow existing access roads and especially cut routes enabling all levels of skiers to use the facility.

The trails are 10 feet wide with brush and large rocks removed. Grades and corners have been designed for "good beginner" to "intermediate ability" skiers while standard trail markers have replaced the Authority's old wooden markers which were easily and readily destroyed.

To groom the trails, the Authority uses an Alpine snow machine with a home-made groomer and a track setter. Because it could not afford a commercial machine, the Authority constructed its own equipment for only $200.00. This equipment does a satisfactory job. We have found that with the good base condition of the trails, skiers can now use it safely with a snow depth of only 6". Grooming and track setting is done every seven days or whenever snow falls or weather conditions require. Grooming and tracking the complete 10 km takes about two hours, at a cost of approximately $50.00.

Turning to our other areas used for skiing, we have found that the trails at Selwyn and Squirrel Creek areas, primarily summer hiking trails, are adequate for ski use but are generally narrower than those at Warsaw with some sharper turns and steeper grades. The Authority does not mark with standard arrows or groom these trails. In spite of the lack of usual maintenance, many skiers enjoy the Selwyn trail which is 3 km long, passing through cedar woods beside Chemong Lake. A loop through a maple bush at the north end of the property brings the skiers to the return trail crossing rolling fields interspersed with clumps of cedar.

Our last ski area, the Squirrel Creek trail, also 3 km long, is generally over flat terrain beside the Otonabee River and the Squirrel Creek marsh. This trail is not yet marked with regulation signs and is not groomed. The area also suffers from a lower snowfall than either of the other locations and may not be usable when good skiing is available elsewhere.

Maps of all three of these trail areas are included in a pamphlet prepared by the Authority, showing the location of the area and details of the trail within each area, as well as key geographic and man-made features for reference.

Snowmobile Trails

ORCA has developed a series of snowmobile trails on Authority and

privately-owned land in Dummer Township, north and east of Peterborough. The 1400 hectares owned by the Authority is managed for forestry purposes with the Ontario Ministry of Natural Resources. Management in this case includes low intensity, public use, such as hunting, hiking and, in recent years, the development of snowmobile trails.

A 40 km trail has been laid out to use existing forest access roads where possible, linked together by trails cut for the snowmobile route. Since the Authority properties are not all contiguous, we have had to cross some private property to complete the trail.

Permission has been obtained from appropriate owners and leases of one to three years (depending on the owner's wishes) have been negotiated, and are in effect for the winter months. The owners allow the Authority to open gates and remove fence panels where the trail touches private land. After the season is over, the Authority replaces the fence and repairs any damage that may have been done by trail users. The Authority does not pay for the leases, although a token of appreciation in the form of a season's pass to the Authority areas is usually given to the property owner. To help promote good will, the Authority has posted notices urging users to stay on the trail when it travels over private land. In some cases, because owners have refused to give permission in a particular area, the Authority has had to change its trail route. Approximately 20 km or 50% of the trail are on Authority property.

Development

The location of the trail was first laid out on aerial photographs using, where possible, existing roads and trails. The location was then inspected on foot, changes made where necessary, and the route marked. The trail was cleared to a width of 20 feet with logs and large rocks removed and fill placed in gullies and low areas. One bridge which was needed over the Indian River was constructed by a Katimavik crew working for several months on the development of this trail. The route is groomed regularly as weather and snow conditions require with the Authority's Alpine snow machine pulling a grader which levels the humps and **mogula** that form from constant use.

A parking lot at one end of the trail is kept plowed by the Authority using a front end loader and, more recently, a snowblower.

Standard trail signs mark directions while Authority-designed signs caution about private property, etc.

The entire trail has been designed so that it connects with neighboring snowmobile trails, maintained by local clubs, and all of these are linked as part of the Ontario Trails System.

The Authority has prepared a folder with maps which show the regional location of the trail as well as details, including natural and man-made features. The brochure gives safety hints for snowmobilers and is updated regularly.

We have recently carried out some limited studies on the use of our trails and the results will be used to modify the program where needed.

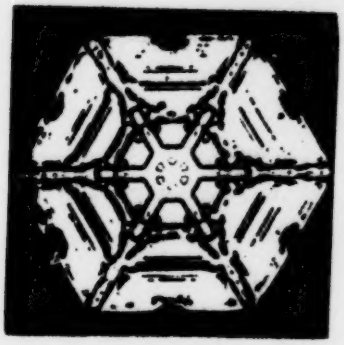
Financing

The cost of development and maintenance of both trail systems was originally financed through the Authority's regular budget, 50% of which came from the member municipalities and 50% from the province. Special programs, such as the provincial Experience Program and the federal Katimavik, which are labour intensive, have been used to improve and extend the trail network over the years. In addition, the Ministry of Natural Resources has during the past five years provided a lump sum grant of $3,000 - $4,000 per year for trail development and maintenance. Total cost for development and maintenance in 1980/81 was $4,300.00.

A condition for receipt of the M.N.R. trail funding is that the use of the trails will be free. Since the grants have not been sufficient to cover all Authority costs, ORCA has implemented a voluntary donation program, the receipts from which will be put towards trail improvement, construction of shelters, etc.

Future

So long as funds are available, the Authority will continue to maintain its existing trails and, where possible, expand these or develop and improve new ones. We plan to build shelters at appropriate locations on the X-C ski trail and we hope to renovate an abandoned building for a similar use on the snowmobile route.



COLD WEATHER SAFETY

Bob Huxley
Trent University

The problem with cold weather safety begins with our perceptions and attitudes. Cold weather is not just a winter phenomena nor should cold weather safety rest exclusively with battling hypothermia. Traditionally cold weather has meant discomfort, danger and possible death. It was a time of year to avoid either by fleeing the country or holing up in our houses for the duration. Recent years have seen an increase in people going out-of-doors in winter. Led by space-suited snowmobilers and followed by multi-layered cross country skiers, people were attracted by the ease of transport over snow. Cold weather unfortunately is not the same as snow cover[1]. The equipment adequate for snow may not be appropriate for spring and vice versa. To be safe in cold weather it's important to recognize its forms and to learn how to live with them.

The interpreter should demonstrate the proper attitude. Not only does this keep the interpreter comfortable it also graphically shows respect for the climate, a must for all cold weather interpretative exercises. The idea is to show that it is possible to be warm when it's cold out and have the audience discover that it's also possible to have fun. This may sound silly to all those that haven't seen tour guides in polyester dresses beating their tour to the next warm building in the midst of a late-May snowstorm. Obviously interpreters should be supplied, or allowed to provide, clothing that will keep them comfortable.

It's not necessary to go overboard on equipment. Part of the idea is to get the audience involved outside after the tour and that's a lot easier to do if they don't think they need a Gore-Tex mountain parka to go outside in

the southern Ontario winter. Nor is it necessary to buy 8,000 pairs of rubber boots for visiting groups. It is necessary to provide some guidance, preferably in the form of a pre-arranged checklist of essential and special equipment. It need not be expensive. A hat, a pair of felt-lined boots and mittens all are relatively inexpensive and help keep the audience warm, dry and attentive.

This implies of course that interpreters know what they're talking about when it comes to preparing checklists or special equipment. Unfortunately I suspect most checklists result from the trial and error approach or at best, intelligent guesswork. Many interpreters haven't even the basic safety skills and even those that do have little idea of the demands of climate on safety. This is a very real problem. As Wally Rowley, leader of the conference safety workshop said "Wake-up people. That's blood on the snow! How are you going to handle it?"

Picture yourself ten kilometers into the bush on a cross-country outing and one of your group has a broken leg. Could you get the victim, you and the group out alive? What about the kid with the spinal injury on the toboggan hill, the little girl who fell through the ice in the sugar bush pond or a thousand and one unimagined possibilities? If not you had better start looking at the list of safety training organizations which appears at the end of this article. They don't guarantee an end to all your interpretive safety problems in cold weather, partly because none approach it from an interpreters perspective, but they all serve to increase competence.

This competence can be drawn on in an emergency and also when designing programmes but knowing your season is probably the best safety. Avoiding problems is a lot better than curing them. Knowing how to handle them when they do crop up is a lot better than ignorance. This competence can be drawn on in an emergency but probably your best safety device is a thorough knowledge of the season you're interpreting in. Avoiding problems before they crop up is a lot better than dealing with them when they do. Cold weather safety comes not from knowing everything there is to know about hypothermia but rather from knowing everything you can about cold weather. A combination of seasonal knowledge, competence in emergency situations and a love for cold weather is sure to result in opening not one but rather three seasons to the outdoor interpretation.

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Associations

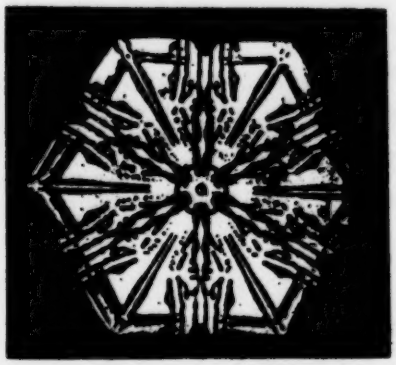
Canadian Ski Patrol System

Canadian Ski Instructors Alliance, 160 Vanderhoof, Toronto, Ont. 421-6700.

Canadian Red Cross Society, Nat.Headquarters, 95 Wellesley, Toronto, Ont. 933-6692

Royal Life Saving Society Canada, Nat. Office 64 Charles, East, Toronto, Ont. 966-5126

Royal Life Saving Society Canada, Ontario Branch, 8 York Street, Toronto, Ont. 368-1809



CROSS COUNTRY SKI IN SAFETY

Tony Pierce
Jasper National Park

Everyone is doing it - the little kids, the big kids, Mom and Dad. Yes, even Grandmother is out there in the winter snow world sliding along in great style. The "skinny boards" have opened up to an ever increasing number of people, access to the outdoor country in winter. It's easy, cheap and within the capability of almost everyone. So thousands of people are taking up cross-country skiing. It is great, satisfying fun in the snowy out-of-doors. And, as their skill develops, when they no longer have to concentrate on standing up and sliding, the away from the road trails beckon. Cross-country skiing is the means to explore - 2 - 3 - 5 - 10 miles back into the wilderness. It is then that the cross-country skier must prepare himself and his equipment for more than a quick slide around the golf course or the block. The further you travel away from the road and other people, the more forethought, preparation, skill and knowledge are necessary for your safe return.

We here in Jasper National Park are very concerned that so many inexperienced visitors are exposing themselves to severe frostbite due to equipment failure or accident when they are several miles away from help. How do you travel back 3 or 4 miles in deep snow with a broken ski tip - a harness torn off - a twisted knee? It's all a matter of thinking about the possible situations before you go and like the Boy Scouts "Be Prepared". The day pack can carry more than lunch and ski wax.

Take a good look at your cross country ski equipment. Note that it is all light-weight - thin skis, light harness, light cane poles. You travel lightly clothed. Your boots are thin and flexible. Think about how you feel when you stop for a longer rest. You are hot. You cool

down quickly. You feel chilled in minutes. Your feet get cold. So you move on. But what if you have trouble! Can you stop longer? Can you come back out slowly without suffering from frostbite?

Park naturalists travelling on cross-country skis with groups of visitors or in pairs carry an emergency kit in their ruck-sack. It will handle ski repairs, first aid and warmth. The kit is small and light but it sure helps to solve the trouble problems way back up the trail. Here is what is in our canvas emergency bag:

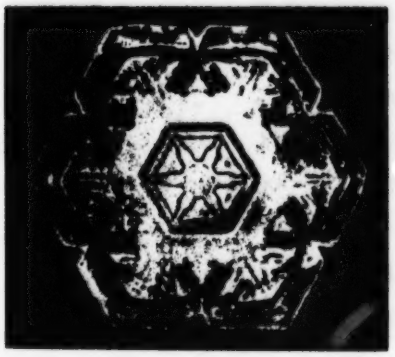
For Ski Repairs:	Fiberglass tape	Screwdrivers
	Baling wire	Needle and thread
	Nylon cord	Pliers
	Ski tips	Silver ski wax
	Knife	Matches in container
	Harness Screws	Candle
	Spare toe clips	
For First Aid:	Scissors	Triangular bandages
	Adhesive tape	Pressure dressings
	Telfa pads	Safety pins
	Butterfly closures	Eye cream
	Eye pad	First aid cream
	Anchor dressings	Space blanket
	Band-aids	Plastic bags
	Metal splints	Cup

Each naturalist also carries extra socks, mitts, scarf and sweater. This gear is easy to carry in a day or fanny pack along with lunch. One kit will do for a group of skiers.

Skiing trails requires some extra skill to get you down the hills. Learn how to use your poles as brakes and how to fall safely. Don't be too proud to take off your skis and walk down a hill. It's a lot better than arguing with a 10' tree at the corner. And, if you fall, roll off the trail and shout to warn the skier following you.

We urge you to think about the possible problems before you ski back away from the road. Get organized, know how to use your equipment, take an emergency kit and you can go with a light heart and free mind.

Oh yes, most important! Someone should know where you are and when you will be back. If we have to look for you, knowing where to start looking may save your fingers and toes or even your life.



MANAGEMENT AND THE INTERPRETER

Rick Dowson
Program Manager
Grand River Conservation
Authority

As a manager of Nature Centres, I don't become involved directly with the content of interpretive programs although I do keep track of the types of things going on and help direct theme development. As well, I watch the programs my co-workers put on as often as I can, and try, from time to time, to take a group and conduct a walk myself.

My main task is currently the "sales" part of programming in which I try to develop contacts that will turn into long term commitments or contracts. Further, as a manager, I try to extend my interpreters' horizons so that they themselves become contacts in their communities - so that as many parts of the community as possible know of the centre and of its value and service to them. I expect the interpreters to try and accommodate any group that requests an activity in our field.

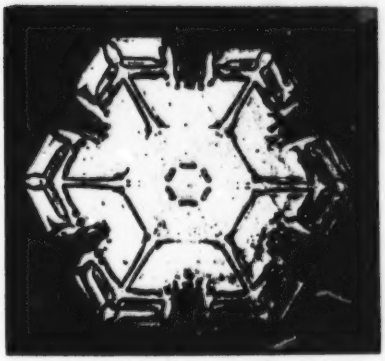
Selling programs to Board of Education people is a difficult job, for there is often an existing program which seems similar. Our success here has stemmed primarily from budgeting. The Conservation Authority is able to run a natural resource and water study program (which is second to none) more cheaply than a Board of Education can. We have the land (usually as part of another purchase), we do the planning and run the operation for a 12 month year; the Boards then defray costs for 10 months. Finally, because our salary schedules differ we can offer a program for less than a Board can pay a similarly qualified person. We have proven that a teaching background is not always necessary; in fact the natural enthusiasm often comes through better without the teaching training.

The manager looks to the person in the field as a human resource that often needs to be renewed, encouraged genuinely, and given a chance to carry responsibility. That person can be challenged in two ways:

- by a little extra in a field of their expertise or competence or
- by exposure to chances in self-improvement.

Finally, a manager of Natural Resource Interpreters, needs to be aware of the limitations that people have for work. I believe people such as Interpreters have a tendency to disregard quitting time. Accordingly one must look to a realistic time-line or number of hours, and then make sure that interpreters work within those time constraints. It is easy to work 60 hours per week but there comes a time when 30 hours a week is too much and the Interpreter gets stale and the programs, etc., show it.

In conclusion a manager of interpretation programs must be a good listener. In this role most of the major decisions become easier to make, for often in the discussion that centres around a problem, the concepts needed to solve it become quite clear.



INTERPRETATION COSTS AND ARRANGEMENTS

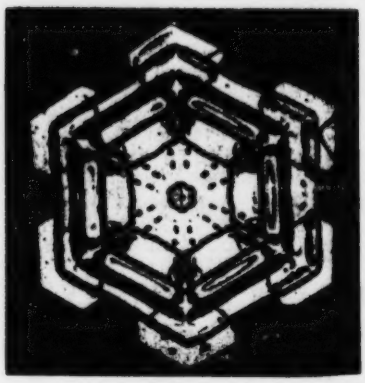
Rick Clow
Conservation Areas Supervisor
Central Lake Ontario Conservation Authority.

In order for program proposals to have support, and to succeed, they should include 'before and after' costs and required arrangements.

Examples of such costs and arrangements are:

- permanent entrance signs are part of general development and maintenance costs.
- special signs, ie. nature trails and ski trails
- signs should be thought out in advance keeping in mind staff and material costs, clarity of message, etc.
- in hiring general employees, one can often be found who has sign lettering ability but the person doing the hiring needs to know of this requirement at the time of hiring, which may be in advance of the need for the signs. Therefore have programs thought out in advance. An example: the time to think about improving trails is at the end of their present season; then you have approximately 9 months to upgrade them as part of regular programs.
- other programs to keep in mind are land owners' agreements, e.g., Ontario Hydro use restrictions.
- the trail markers we use are the standard ones (or they are about to be standardized). It is costly to do a trail twice just to change post colours or signs.
- there are auxiliary costs such as ploughing of parking areas, the posting of security signs (i.e., 'NO SNOWMOBILES'), and trail maintenance and grooming.
- over use by the public may generate further work such as parking lot construction.

- over use by the public may cause increased costs due to the necessity of having staff on duty for crowd and traffic control.
- maintenance and development are operations that have, as a common goal, use of the areas by the public. Interpretation enhances this use.
- points to keep in mind are:
  - think out proposed programs in advance
  - discuss them with operations people, in advance
  - often if enough advance notice is given, work items can be incorporated into 'regular' work schedules i.e., trail clearing, post and sign preparation, and service item setup can often be done by summer work crews.
- at a certain stage, due to permanent employees and the fact that Authorities pay themselves rent on their vehicles and equipment it is good budgeting practice to spread operations' money evenly throughout the year and tailor work programs to fit. Thus planning of these programs becomes crucial.



PARKS CANADA'S INTERPRETATION AT THE REGIONAL LEVEL

Robin Reilly
Parks Canada Atlantic Region
York University Faculty of
Environmental Studies

Interpretation has an elastic scope. Its focus (winter or otherwise) can range from identifying mink footprints, to providing a rationale for the preservation of natural communities. Interpretation is first and foremost a tool; how this tool is used depends upon the organization employing it. In its most restrictive usage, for example the identification of tracks, interpretation is an interesting, informative, quaint, nice and safe fringe activity. At such a narrow scope it is unlikely to arouse anyone negatively or positively. In a broader context, interpretation can be the means by which an organization unfolds itself to the general public and thereby engenders the support of a broader constituency. In times of financial restraint, environmental organizations need strong public understanding of and appreciation for their programs. As the size and complexity of an organization increases, the demands upon the potential of its interpretive program increase correspondingly. Parks Canada, being the largest interpreting agency in Canada, offers a wide range of interpretive programs. While many of the programs are exemplary, most are only moderately successful and some are down-right poor. Because of the size of the organization, a series of national and regional interpretive plans are needed to coordinate programs at the park level. Typically interpretive programs are attended by only a fraction of park users. Evening slide shows are the most popular while guided walks are less commonly attended. In a series of Atlantic Park-based visitor-profiles, it became apparent that the reason most people did not attend interpretation programs was that they either had too

little time or weren't aware of it. As an overall program, interpretation can employ a variety of strategies to improve its effectiveness. At this workshop, we have seen a variety of techniques for improving interpretation, particularly signs, shelters, guidebooks and special events. However, as with any trade-fair, the merchandise is not equally useable by all organizations. When adopting a specific strategy, it is important to select one which is appropriate for the organization. A number of the Conservation Authorities present here use maple-sugar production as the crux of their winter interpretation programs. Maple Sugaring might be appropriate for an organization involved with resource utilization but not for one whose mandate involves nature preservation.

I believe that those who attend an interpretive program soon forget much of the information they receive. What they do remember is the style of the program and the mood it conveyed. Often the type of program conflicts with its content. I question the merits of the program previously described by MNR at Algonquin which uses scrap meat to lure wolves to a window where amateur photographers, sheltered from the cold, can capture them on Kodak paper. No matter how you use the occasion to describe wolfe ecology and the majesty of this wild carnivore, you are reducing the animal to a dump-side beggar. Is there really any difference between this and feeding road-side bears?

In Parks Canada's Atlantic Region there are seven National Parks: Fundy, Cape Breton Highlands, Prince Edward Island, Kouchibouguac, Kejimkujik, Gros Morne and Terra Nova. As with all National Parks each of these is supposed to be representative of a specific biophysical region. As such it is supposed to have a range of features, flora and fauna which differ from other parks. A review of every Park Interpretive Program reveals that most interpret a wetland habitat, often describing the evolution of a raised bog. If as a park visitor you went to each park and heard a talk on raised bogs, you might come to question the distinctive representativeness of each park. The obvious conclusion would be why do we need more parks when so many bogs are already preserved.

In an effort to explain the National Parks as a co-ordinated and integrated system, the Atlantic Region of Parks Canada has produced a Regional Plan for Interpretation. This plan is intended to stimulate co-ordinated interpretive planning at park and regional levels. The

document is based upon a series of resource matrices and on a review of socio-economic trends in Atlantic Canada. The effective use of this interpretive document should result in individual parks developing themes which highlight the particular qualities of the natural regions which they represent. This should consequently reduce the duplication of interpretive programs and improve their quality.

Interpretation conducted from a national park is aimed at the park visitor. Interpretation conducted from the regional office will be aimed at the general public of Atlantic Canada, with a particular thrust at reaching those who do not or cannot frequent the national parks. Regional Office Interpretation, properly called the Regional Extension Program is not designed to promote park visitation rather it is to use the parks as sites for audio-visual programming which can subsequently be broadcast through the mass-media. The aim is to bring interpretation to the public. Often delivering interpretive programs to those who frequent parks and attend guided walks is "preaching to the converted". If interpretation is to be made more valuable it must deal with a larger less informed public. This public however may not be familiar with the goals and objectives of Parks Canada to receive interpretive presentations. It is therefore suggested that the Atlantic Region's Extension Programs be initially developed to promote an awareness of the high quality natural environments represented in the national parks. Once this "awareness foundation" has been established, extension themes should be subsequently developed with the intention of providing knowledge, changing attitudes and engendering support.

The effectiveness of this two-step (awareness then knowledge) strategy is exemplified by the mass media "Participaction" Program which spent its first years' advertising budget introducing who and what "Participaction" was and then later began admonishing us to get in shape. Through a series of comical one-month inserts, "Participaction" has introduced itself to virtually every Canadian and has begun to change our attitudes towards exercise. Such widespread popular awareness and support can only strengthen the credibility and improve the effectiveness of any program.

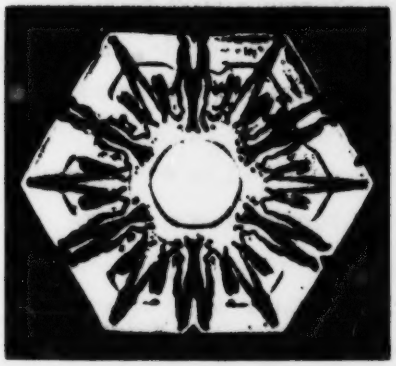
A review of outstanding features and processes, representative landscapes and existing interpretive themes has resulted in the designation of Regional Extension Themes of High Representation. Typical

examples of these themes include:

1) Portfolio of a Maritime Sculptor (Marine Landscape Sculpturing in Atlantic Canada)
2) The Sea's Edge, A Rough Neighbourhood to Grow In. (A Range of Species and Survival Strategies along the High Energy Littoral Zone)
3) The Acadian Forest, A Product of Immigration, Altitude and Latitude.

Extension Themes can be developed at varying degrees of complexity, using a range of media and designed for different audiences. Those themes which are being developed for mass-media viewing should provide an awareness of Parks Canada's programmes and should provide some background framework for the development of in-park interpretation programmes. Themes developed at a greater level of detail should provide in-depth information to be conveyed through cooperating associations to specially defined receiver groups.

If this strategy is successful the role of Parks Canada in the Atlantic Region and the purpose of Interpretive Programming should be clearly understood. This will result in increased public comprehension and support. In-park interpretation will also benefit in that more people will realize the objectives and worth of guided-walks, slide-shows and self-guided trails. A presensitized audience is much more likely to attend an interpretive program, and as a result of having an idea of what to expect from it, be better poised to learn from and be affected by its message.



INTERPRETATION AND TOURISM

Gary Sealey
Chief
Interpretation & Visitor Services
National Parks Branch
Parks Canada

Tourism attracts people to places and caters to their needs and expectations. For its customers seeking experiences the industry specializes in services and facilities, including:

- accommodation
- food and beverage
- transportation
- events and attractions
- recreation
- distribution and sales

Tourism is rapidly changing from the pursuit of a select few to a top world industry serving masses of people. Canada's devalued currency favours our country's regional and international tourism trade. The movers and shakers in business and government are determined to take advantage of good tourism prospects. Signaling the perceived importance of tourism, important meetings have been held on tourism issues this year by groups in both the private and public sectors including the Federal-Provincial Parks Conference, Tourism Industry Association of Canada, Canadian Conference on Historical Resources, and perhaps soon the National and Provincial Parks Association of Canada. So far there has been no meeting of interpreters to deal especially with tourism, although perhaps there should be one.

Interpretation is not on the list of tourism-specialties. Perhaps it should be there, and not relegated to a remote location on the map of leisure activities. The dedication which interpreters have, to public understanding and appreciation of heritage resources would help improve

the quality of tourism in this country and internationally. Moreover, tourism could help Interpretation get the priority it needs from people who are prepared to pay for quality.

From the point of view of some Parks Canada managers across Canada, five significant improvements are needed in tourism.

Many National Parks need a better informed and self-reliant visitor (otherwise, increased use of parks is too costly to the resource and to budgets).

Some National Parks have the capacity for more visitor use.

Some National Parks (like Fundy) have the capability to sustain visitors for a longer length of stay than is usually enjoyed now.

Some National Parks can provide for more visitors in the shoulder seasons than usually come now.

Adjacent to several National Parks are settlements with commercial development that could serve more tourists in the shoulder seasons.

Interpretation services can and should address most of these needs. We need to:

- put more effort into skill development programmes so that people learn how to use heritage resources without damaging them, or themselves;
- use marketing techniques to develop the heritage product in ways people can use it;
- promote some areas (and play down some);
- help prospective tourist visitors to heritage areas plan their stay so as to get full advantage of the heritage resources there;
- develop the shoulder season heritage events and attractions;
- serve many times the number of people, in quality ways by collaborating with the commercial sector.

Some of this is being done now. Algonquin Provincial Park interpreters have been wolf howling for years to teach people some basic heritage interpretation skills, since 1975 there has been a marketing model for park heritage areas; Ontario Provincial Parks is pursuing a marketing plan to promote economic and user benefits from its park system; the package tour industry has done extensive work, especially for bus tourists in helping to time-budget heritage tour activities; many interpreters are "pushing" cross country skiing, to help tourists develop an appreciation of heritage resources in seasons outside the 6 weeks of peak

summer tours; and the phenomenally successful "book of Banff", a training tool for tourism service personnel in and near Banff National Park and the work of interpreters with commercial tour boat operators of many locations illustrate that we are aware of the potential of working with the commercial tourism sector.

Discussion

During the discussion which followed the presentation, the following points were raised:

1. There is a need to do research on visitors before they arrive at heritage areas, to maximize the effectiveness of their heritage appreciation activities.
2. There is a need for better promotion of heritage areas which respects their character and purpose and attracts suitable tourists to them.
3. Marketing approaches have been developed which should be used.
4. In some areas the heritage resource base is unsuitable for tourism development - too fragile, remote, or expensive to develop.
5. Often basic facilities and services such as accommodation provided at heritage areas work against the interpretation process when they should instead support it.
6. Cooperative approaches, including the use of volunteers, docents, "friends of heritage" - associations should be used to enhance heritage tourism services.
7. The private sector can do more interpretation, and probably make more profit, as for instance is done at the Flamingo accommodation centre Everglades (actually I believe most of this is publicly funded but since somebody said it I wrote it down).
8. There is a need to develop appropriate ways of interpreting for increased numbers of international tourists. Translation is an increasing need - how do you translate heritage?
9. There is a need to avoid trampling on other people's values when interpreting (especially in cultural areas like shrines and churches) and there is a need for interpreters to work with local communities to help avoid bad tourism cultural impacts. The result of this work will be to encourage inter-regional and inter-national understanding, and to avoid xenophobia.
10. Interpreters need to continue to develop their role in managing heritage resource capability.

11. There appears to be a need for interpreters to help our country deal with energy scarcity in relation to tourism. This subject probably needs much more development.
12. There is a need to reconsider our interpretation resource allocations to look at all four seasons. Well developed operational standards can be used as a basis for this (see references).
13. Interpretation Canada should have a position on the subject of tourism, and on several of the above issues.

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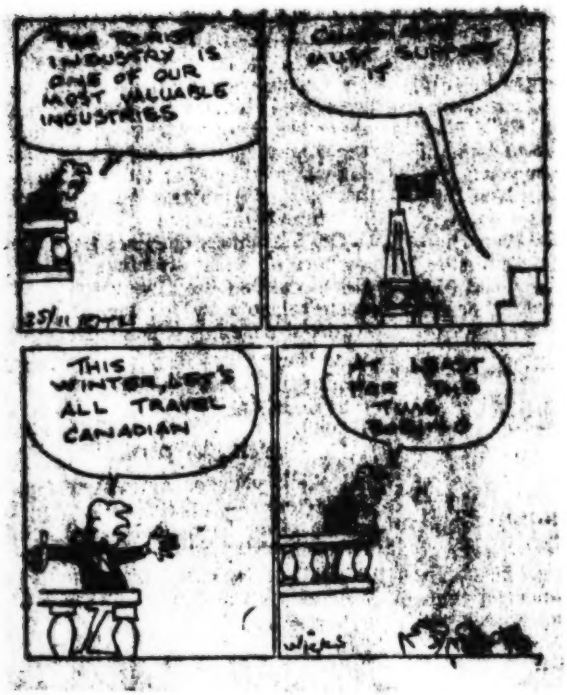
Appendix I

Parks Canada's general strategy. Others might better understand some of the remarks attributed to Parks Canada managers as well as the context for interpretation efforts on tourism when these are set in the context of Parks Canada's general strategy. Also the strategy probably

is similar to what several other agencies are trying to do:

- match demand with supply, and thereby make fuller use of the opportunities we already have;
- complete the establishment of National Parks, where there are voids in the system, and thereby increase the range and availability of lands for conservation and recreation;
- improve regional planning to avoid duplication and shortfalls in services with a view to planning for overall visitor needs as a package of packages;
- make some effective use of increasingly limited financial resources by getting more bang for the buck.



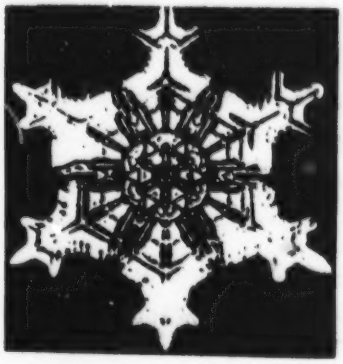
Appendix 2

Tourism and Interpretation, John Marsh, February 1981.

After a Winter Interpretation Workshop in January 1981 at which Gary Sealey of Parks Canada raised questions regarding the inter-relationship of Tourism and Interpretation the following points come to mind:

1. Some tourist groups and their associated behaviour patterns may be deemed inappropriate in national parks - example, people who confine themselves to vehicles which rarely stop, people who spend most of their time on Banff Avenue. Interpretation could be used to either suggest they go to other environments or that there is a lot more to a park than driving and shopping. For such interpretation we need to identify groups, consider the means to reach them, and attractive messages to send out. The result may be more suitable behaviour patterns, more appreciative visitors.
2. Catering to different groups. Since park visitors are not homogenous we need to identify clientele types, e.g., ethnic groups, foreigners, the aged and handicapped. How much information and interpretation is available in foreign languages? Where are the older park visitors and what would they be interested in learning about?
3. Commercial interpretation. Perhaps tourists, especially foreigners, would be willing to pay for interpretation either by park agencies or commercial operators. Foreign visitors sometimes bring paid guides, bus companies provide tour guides, people pay to be guided around historic sites and private museums. Interpretation then could be a source of revenue and jobs. Putting a $ value on it might also test its appeal and excellence.
4. Make all tourism facility people interpreters. Not every park visitor hears an interpreter or reads a brochure but many talk to hotel clerks, policemen, shop clerks, librarians, post office staff, laundromat operators, bus ticket salesmen, railway porters, etc. All such people tend to interpret but they may be misinformed. Inform them and thereby recruit thousands more free interpreters.

5. Tourism paraphenalia. Away with Japanese teaspoons and in with interpretive tourism knickknacks and souvenirs. Let's see more interpretation on place-mats, matches, shopping bags, post cards, posters, hasty-notes, calendars, T-shirts, artwork, guidebooks.
6. Interpretation on public transport. Public transport, rail, bus, tour bus, etc., is widely used in parks. Operators of such transport services should be encouraged to provide interpretive services, e.g., informative bus drivers, audio-messages on trains, handouts with tickets for certain park routes. The CPR used to have a fantastic range of guidebooks on the Rockies ... and now? People could learn about park environments before arriving as well as when in the parks. People in public transport, as in ski lines, on chairlifts and gondolas, in waiting rooms are at the mercy of interpreters.
7. Requirements of Tourism Operators in Parks. For the privilege of running a business in a park, tourism operators might be required to do some interpretation, e.g., provide certain information on services, or place interpretive messages in their advertising. Much advertising of ski vacations in Banff doesn't even mention it's a park!
8. Learning from tourism operators. Tourism people sell images, landscapes, activities, etc. for a living. Interpreters might learn new or improved methods from tourism advertisers, operators, etc.
9. Improve linkages between interpretation and tourism agencies, e.g., C.G.O.T. and Parks Canada, Interpretation Canada and Tourism Industry Association of Canada, Banff National Park and Greyhound, etc.



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Sigrid Johnson
Mary-Louise Adams

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Addresses of Organizations and Associations:

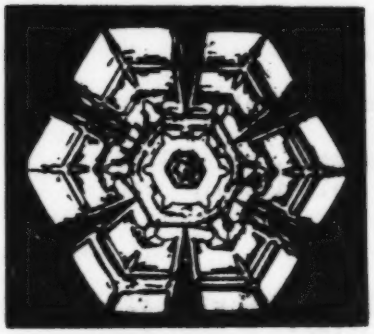
Alpine Club of Canada, P.O. Box 1026, Banff, Alberta

American Alpine Club, 113 East 90th Street, New York, N.Y., 10028

Canadian Orienteering Federation, P.O. Box 6206, Terminal Station Toronto 1, Ontario

National Audubon Society, 950 Third Avenue, New York, N.Y., 10022

Survival Education Association, 9035 Golden Given Road, Tacoma, WA, 98445.



FILMS DEALING WITH WINTER

Available from:
The National Film Board

Glaciation

11 min. 25 sec., colour, 0165 045; Directed by Kenneth McCready.
"This colour film, suitable for the classroom shows the surprising life and activity of glaciers."

Saskatchewan - 45° Below
13 min., 50 sec., colour, 0171 009; Directed by Larry Kent.
"This is a picture of winter on the western prairies when the full blast of Arctic cold strikes down upon those who live and work there."

How to Build an Igloo
10 min., 27 sec., colour; Directed by Douglas Wilkinson
"A demonstration of igloo building in Canada's Far North."

People of the Seal, Part 2: Eskimo Winter
51 min., 39 sec., colour; Produced by Michael McKennirey & George Pearson.
This film, a "coproduction of the BBC and the NFB is compiled from some of the most vivid actuality footage ever filmed of the life of the Netsilik Eskimos in the Pelly Bay region of the Canadian Arctic."

Netsilik Eskimo Series
"These films reveal the reality of traditional Eskimo life before the impact of European acculturation.... A minimum of cultural reconstruction was required during the filiming.... All the films are in colour, with the natural sounds of the region and of the Eskimos' activities but with no voice other than those of the Eskimos."

At the Winter Sea Ice Camp: Part I.
35 min., 40 sec., colour; 0167 201

At the Winter Sea Ice Camp: Part 2.
36 min., 16 sec., colour, 0167 202

At the Winter Sea Ice Camp: Part 3
30 min., 16 sec., colour; 0167 203

At the Winter Sea Ice Camp: Part 4
34 min., 40 sec., colour; 0167 204.

Cree Hunters of Mistassini
57 min., 53 sec., colour; 0174 001; Directed by Tony Iamzels & Boyce Richardson.
"Three hunting families agreed to meet an NFB film crew, who filmed the building of the winter camp, the hunting, the relationships to the land, the rhythm of Cree family life."

I've Never Walked the Steppes
28 min., colour; 0175 018; Directed by Jerry Krepakevich.
"A visit to a family of Ukranian-Canadians at Christmas, a time when the rich traditional customs are most in evidence."

Jack Rabbit
28 min., 40 sec., colour; 0175 042; Directed by Bill Brind
"The story of hundred-year-old Herman Smith Johanneson - nicknamed Jack Rabbit by Indians - the man who introduced the sport of cross-country skiing to this country."

Maple Sugar
7 min., 27 sec., black & white; 0160 035;
"This film reports from the heart of the sugar country in Quebec's Eastern Townships. All stages of processing are shown."

Manouane River Lumberjacks
27 min., 46 sec., black & white; Directed by Arthur Lamothe
"From fall until early spring the woods echo with the whine of power saws and the shouts of men ... A rugged film of a rugged life, the picture takes you to the very heart of a major Canadian industry."

It's Snow
5 min., 18 sec., colour; 0374 002; Directed by Gayle Thomas
"Colour cut-out animation inspired by the shape of snowflakes and touched with the airy magic of these fragile designs."

Downhill
35 min., 52 sec., colour; 0173 103; Directed by Robin Spry
"Actor Michael Kane stars in this brief winter romance filmed partly in the dazzling outdoor spelendor of a Laurentian ski resort and partly in the cardiac wing of a city hospital."

Snow
12 min., 23 sec., black and white; 0161 007; Directed by Barrie McLean
"This film shows the life and form of snow, why powder is good for skiers and why 'coin' snow can warn of developing avalanches."

Cold-Rodders
16 min., 6 sec., colour; 0170 113; Directed by Claude Larue
"An amusing view of the machine that has taken the country by storm - the snowmobile."

Cross-Country Skiing
6 min., 26 sec., colour; 0370 108; Directed by Roger Rochat
"Here you can experience the essence of this sport, the exhilaration ... This film shows how four experts do it ..."

Descent
10 min., 38 sec., colour; 0375 651; Directed by Giles Walker and Paul Cowan
"'Descent' is a film about Dave Murray, member of Canada's National Ski Team."

First Canadian Winter Games, Quebec 1967
24 min., 55 sec., colour; 0169 528
"Without commentary this film captures the colour and spirit of this mid-winter event."

Flight in White
14 min., 48 sec., colour; 0168 173; Directed by William Canning
"Filmed in the Canadian Rockies, this picture reveals the fine blend of exhilaration, risk, physical prowess and of course, speed, that is all a part of this challenging sport."

No Way They Want To Slow Down
28 min., 34 sec., colour; 0175 559; Directed by Giles Walker
"This documentary takes an informal look at how our best skiers work and live."

Race of the Snow Snakes
8 min., 23 sec., colour; 0172 538
"An ancient game of the Iroquois ... The snow snakes are sleek, metal-tipped wooden rods about six feet long, and are raced in competition down snow furrow courses of up to 1.6 km. Thrown with dexterity they can reach speeds of seventy-five miles per hour. The film shows the skill and handiwork that goes into their making."

The Sword of the Lord
57 min., 50 sec., colour; 0176 003; Directed by Giles Walker
"This film records the extraordinary determination of Jungle Jim Hunter, member of Canada's national ski team, to be the best skier in the world."

Tomorrow Winter Comes
26 min., 53 sec., colour; 0174 135; Directed by Therese Dumesnil
"This film captures the pleasure and delight of cross-country skiing. It notes techniques and gives tips on clothing and on care of skis." (French with English sub-titles)

The Joy of Winter
14 min., 54 sec., black & white; 0162 023
"How Canadians adjust to their long snowbound season. Filmed with humour, this picture shows people making the best of what they cannot change."

The Rink
10 min., colour; 0163 025; Directed by Gilles Carle
"A film without words showing a Sunday afternoon at the community skating rink in the park."

Interpretation Canada - Ontario Section

WINTER INTERPRETATION WORKSHOP

Irwin Inn, Stony Lake, Peterborough

FRIDAY, 30TH JANUARY

1 p.m. - 4 p.m.	-	REGISTRATION - Irwin Inn Dining Room.
	-	Winter Outdoor Recreation Equipment, Display & Sale by Goolak.
	-	Films on Winter Recreation and Safety.
4 p.m.	-	WELCOME - Recreation Room.
4.15 p.m.	-	Ernest Thompson Seton - an illustrated talk by Dr. John Wadland, Trent University.
6 p.m.	-	DINNER.
7 p.m.	-	Interpretation Canada Business Meeting - Recreation Room.
8 p.m.	-	The Scope of Winter Interpretation - Dr. John Marsh, Trent University.
	-	Winter Interpretation in the National Parks - Mary-Louise Adams, Trent University.
	-	Winter Interpretation in Ontario Conservation Authorities, Sigi Johnson, Trent University.
	-	Winter Interpretation in Outdoor Education Centres, Liz Symons, Trent University.
9 p.m.	-	Show and Tell - Recreation Room.
10 p.m.	-	Bar - Dining Room.

SATURDAY 31ST JANUARY

7.30 a.m.	-	Bird Walk-Ski - Dr. Fred Helleiner, Trent University. (Meet in Dining Room).
8 a.m.	-	BREAKFAST
9 a.m.	-	Clientele - Cross Country Skiers - Mike Brklacich, University of Guelph (Dining Room).
9.45 a.m.	-	Workshop A - Wildlife in Winter - Ron Tozer, Algonquin Prov. Park
	-	Workshop B - Snowshoes - Jack Seigel, Seneca College. (Recreation Room).
10.30 a.m.	-	COFFEE
10.45 a.m.	-	Snow and Ice and its Interpretation - Nigel Roulet, Kathy Outerbridge and Nancy Strickland, Trent University.
11.30 a.m.	-	Winter Safety and Survival (Recreation Room).
12.15 p.m.	-	LUNCH
1.30 p.m.	-	Workshop A - Nature Interpretation - Winter Interpretation and the National Capital Commission - Shirley Black and Michelle Comeau, N.C.C.
	-	Workshop B - Historic Site Interpretation - Winter Interpretation at Hutchinson House, Peterborough, Tom Kuglin, Curator.
	-	The Winter Live In Experience at Ville St. Marie, Midland, Jack Hutchinson and Bob Abrey, Anderson Collegiate Vocational Institute, Durham Board of Education.

3 p.m.	-	COFFEE
3.15 p.m.	-	Workshop A - Tourism and Interpretation - Gary Sealey, Parks Canada, Ottawa, (Dining Room).
	-	Workshop B - Regional Interpretation - Robin Reilly, Parks Canada, Atlantic Region (Recreation Room).
4 p.m.	-	Winter School Extension Programming - Panel Discussion (Dining Ro
		- Rick Dowson, Grand River Conservation Authority - Jon Williams, Petawawa National Forestry Institute - Linda Sutterlin, St. Lawrence Islands National Park - Jocelyne Daw, Parks Canada, Trent-Severn Waterway
5.30 p.m.	-	THE GREAT RACE
6 p.m.	-	DINNER
7.30 p.m.	-	The Ogoki-Albany Wilderness - a slide sound show presented by Janet Grand, F.O.N.
	-	Polar Bear Provincial Park - an illustrated talk by Gerry O'Reilly, M.N.R., Cochrane.
9 p.m.	-	SQUARE DANCE AND BAR - Music and Calling by Bob Jaffrey (Recreation Room)

SUNDAY 1ST FEBRUARY

8 a.m.	-	BREAKFAST
9 a.m.	-	Field Trip Orientation
9.30 a.m.	-	Field Trip A - The Warsaw Caves Conservation Area - led by Hal Hooke, Director, Otonabee Region Conservation Authority. (By van).
	-	Field Trip B - The Petroglyphs Provincial Park (on skis).
12.30 p.m.	-	LUNCH
1 p.m.	-	CLOSING REMARKS
3 - 4 p.m.	-	Hutchinson House, Peterborough, open for visitors.

Workshop Proceedings

A manual on winter interpretation incorporating the proceedings of the workshop will be published subsequently and made available at cost. Contributions in the form of articles, comments, references, or winter interpretation materials are invited and should be given to Dr. John Marsh at the Workshop.

LIST OF REGISTRATIONS

Rick Clow, Whitby
Richard Davies, Chalk River
Hugh Dobson, Thunder Bay
Kenneth Goulding, Sault Ste Marie
Janice McDonald-Grayston, London
Carol House, Chalk River
Brad Morrow, Peterborough
Barbara A. Perry, Picton
Dave Rushton, Ottawa
Beth Stormont, Guelph
Peter Attfield, Toronto
Donald Hall, Sault Ste. Marie
Donald Murphy, Sault Ste. Marie
David Deboer, Bolton
Lynne Genova, Thunder Bay
Debra Mills, Wroxeter
Cheryl Rielly, Agincourt
Jane Saunders, Fenelon Falls
Brian Tychie, Lyndhurst
Sandra Beecham, Georgetown
Marilyn Beecroft, Stayner
Roxane Charette, Aurora
Judy Gilchrist, Barrie
Bruce Hood, Orangeville
Catherine Nimno, Wasaga Beach
Barbara E. Buchanan, Richmond Hill
Mary Dalman, Toronto
Susan Padmos, Cherry Valley
Janet Rustecki, Toronto
Lynda Baker, Campbellville
Michelle Comeau, Old Chelsea
Janet Roth, Sault Ste. Marie
Leanne Kane, Manotick
Robert Alsop, Newmarket
Don Williams, Newmarket
Donna Jennison, Weston
Kathleen Smith, Lindsay
John Wadland, Trent University
Mike Brklacich, Guelph

June Creelman, Old Chelsea
Rod Deacon, Kitchener
Michelle Dondo, Hull
James Grayston, London
Chris Harris, Trent University
Barbara McKean, Cambridge
Peter Pautler, Brantford
Brenda Poole, Brockville
Sky Sigal, Downsview
Joan Lyn Aird, Markham
Mici Gold, Willowdale
Barrie A. Martin, Dorset
Richard Dowson, Cambridge
Bruce Duncan, Caledonia
Bryan D. Hall, St. Thomas
Debra Perking, Aurora
Gayle Robertson, Toronto
Dan Schneider, Waterloo
Aurel Hart, Lyndhurst
Roger Beecham, Georgetown
Arlen Bowen, Richmond Hill
Bev Christiansen, Aurora
Nancy Griffin, Willowdale
Kim Lennox, Richmond Hill
Peter White, Peterborough
Robert Carlisle, Cornwall
David Paton, Cherry Valley
Holwyn Peters, Downsview
Larry Van Londersele, Simcoe
Jim Aikenhead, Campbellville
Susan Muskovitch, Toronto
Gary Sealey, Hull
Peter Seibert, Newmarket
William Jay, Newmarket
Jim Phillip, Seneca College
Marilyn McCall, Scarborough
Kathleen Burris, Lindsay
Fred Helleiner, Trent University
Ron Tozer, Whitney

Bev Rowley, Douglas
Bob Abrey, Whitby
Hal Hooke, Peterborough
Jack Seigel, King City
Robin Reilly, Halifax
Linda Sutterlin, Mallorytown
Glenn Pincombe, Toronto
Gerry O'Reilly, Cochrane
Barrie Radford, Parry Sound
Gordon Campbell, Trent University
Mary-Louise Adams, Trent University
Kathy Outerbridge, Trent University
Bob Huxley, Trent University
Mr. & Mrs. Jan VanDermeer
Jack Hutchinson, Whitby
Tom Kuglin, Peterborough
Terry Murphy, Peterborough
John Marsh, Trent University
Jon Williams, Chalk River
Mary Burns, Toronto
Isabel Marsh, Peterborough
Janet Giand, Don Mills
Elizabeth Symons, Trent University
Sigi Johnson, Trent University
Nigel Roulet, Trent University
Nancy Strickland, Trent University
Donna King, Trent University

WINTER WORKSHOP - ACKNOWLEDGEMENTS

In connection with the Winter Interpretation Workshop the help of the following individuals and agencies is gratefully acknowledged.

Ministry of Culture and Recreation
Trent University, Department of Geography
Peterborough Chamber of Commerce
Kawartha Tourist Association
The Otonabee Region Conservation Authority
The National Film Board
The National and Provincial Parks Association of Canada
Goolak Backwoods Coop. Inc.
Ministry of Natural Resources
Ministry of Industry and Tourism
Dan Ross, St. Lawrence Islands National Park
Jack Siegel, Seneca College
Rick Dowson, Grand River Conservation Authority
Bob Jaffrey
Larry & Patti Irwin, Irwin Inn
All national park and conservation authority staff who responded to our questionnaire.
The many speakers who contributed their own time and money to make presentations at the workshop.
and the following members of Trent University:

Dr. Fred Helleiner	Gordon Campbell	Sigi Johnson
Mary Louise Adams	Bob Huxley	Don Huff
Grace Dyer	Jean Snider	Miles Ecclestone
Nigel Roulet	Liz Symons	Irene Fitzpatrick
Donna King	Nancy Strickland	Kathy Outerbridge

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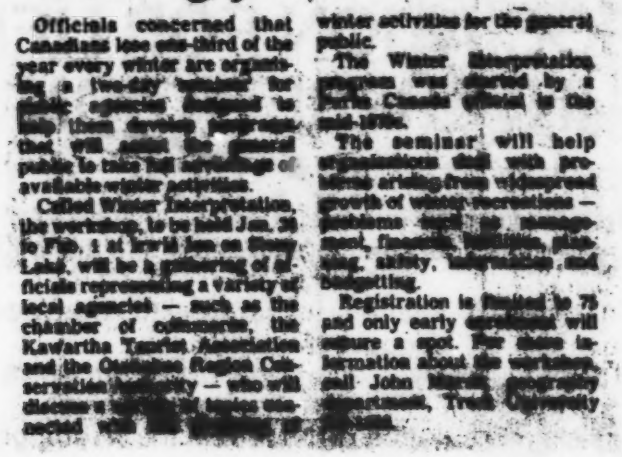
The following financial assistance which enabled the Workshop to be run on a break even basis is gratefully acknowledged.

Ontario Ministry of Culture and Recreation: Wintario Grant, $ 442.00.

Trent University, research and publication grant, $ 876.00.

Losing your winter?



Officials concerned that Canadians lose one-third of the year every winter are organizing a two-day seminar for public agencies designed to help them develop programs that will assist the general public to take full advantage of available winter activities.

Called Winter Interpretation, the workshop, to be held Jan. 30 to Feb. 1 at Irwin Inn on Stony Lake, will be a gathering of officials representing a variety of local agencies — such as the chamber of commerce, the Kawartha Tourist Association and the Otonabee Region Conservation Authority — who will discuss [illegible] topics connected with [illegible] winter activities for the general public.

The Winter Interpretation program was started by a North Canada official in the mid-1970s.

The seminar will help organizations deal with problems arising from widespread growth of winter recreations — problems such as management, financial, planning, zoning, safety, information and budgeting.

Registration is limited to 75 and only early registrants will acquire a spot. For more information about the workshop, call John Marsh, geography department, Trent University [illegible].

To know it is to love it

If you took a poll among Peterborough people, you'd probably find they consider winter the least likely season to govern Canada successfully. Let's face it: winter in this latitude is a bust, notwithstanding the splendid growth of cross-country skiing, snowmobiling and sundry illusions the more energetic toy with in the effort to make snow life bearable.

It is this frigid fact of local life that gets sundry tourist and recreation organizations concerned that for too many Canadians, winter is a write-off — a third of our year is lost to us, if we don't grab it and use it. Seeing the urgency, they hiked off to the Irwin Inn on Stony Lake this week for Winter Interpretation — a brave gabfest aimed at finding better ways and means to get us out there, enjoying winter. Instead of sitting by the fire with brandy and cigar discussing the sybarite's pleasure in winter, which is coming in out of it.

We wish Winter Interpretation success, though we're bound to wonder what first-hand research the participants could have done in the Stony Lake area in the sub-zero temperatures winter has blessed us with these past days, temperatures in which even words freeze unless primed with anti-freeze before hand. We'd like them to know, however, that we admire their restraint in opting not to hold their seminar in Florida, as most other official thinkers and seekers have a habit of doing as their Winter Interpretation.

Correction

An editorial headed "To know it is to love it" Jan. 10 noted incorrectly that the Winter Interpretation workshop at Stony Lake will take [illegible]. It will be held [illegible] to Feb. [illegible] Irwin Inn.

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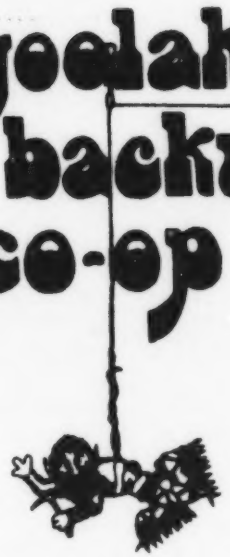
R.R. 2, Lakefield, Ontario, Canada K0L 2H0
Phone Nephton (705) 877-2240

Your hosts . . .

Dennis and Patti Irwin

goolak backwoods co-op



R.R.2 Douglas, Ontario
Canada K0J-1S0
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